

AGE OF DISCOVERY

*Navigating the Storms of our
Second Renaissance*

IAN GOLDIN AND
CHRIS KUTARNA

Bloomsbury Business

An imprint of Bloomsbury Publishing Plc

B L O O M S B U R Y

LONDON • OXFORD • NEW YORK • NEW DELHI • SYDNEY



Bloomsbury Business

An imprint of Bloomsbury Publishing Plc

50 Bedford Square
London
WC1B 3DP
UK

1385 Broadway
New York
NY 10018
USA

www.bloomsbury.com

**BLOOMSBURY and the Diana logo are trademarks
of Bloomsbury Publishing Plc**

First published in 2016

This paperback edition published 2017

© Ian Goldin and Chris Kutarna, 2017

Ian Goldin and Chris Kutarna have asserted their rights under
the Copyright, Designs and Patents Act, 1988, to be identified as
Authors of this work.

All rights reserved. No part of this publication may be reproduced
or transmitted in any form or by any means, electronic or mechanical, including
photocopying, recording, or any information storage or retrieval system, without prior
permission in writing from the publishers.

No responsibility for loss caused to any individual or organization
acting on or refraining from action as a result of the material in this publication can be
accepted by Bloomsbury or the author.

British Library Cataloguing-in-Publication Data

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

ISBN: PB: 978-1-4729-4352-1
ePDF: 978-1-4729-3639-4
ePub: 978-1-4729-3638-7

Library of Congress Cataloging-in-Publication Data

A catalog record for this book is available from
the Library of Congress.

Typeset by Integra Software Services Pvt. Ltd.
Printed and bound TBC



To Olivia and Alex
And their flourishing in the New Renaissance
Ian Goldin

To my father
The most Renaissance man I know
Chris Kutarna



CONTENTS

Preface to the paperback edition xx

Acknowledgements xxiii

1 To Flounder or Flourish? 1

The moment we're in 1

The past is prologue 5

The way forward 11

Good housekeeping 15

PART I Making Sense of a Second Renaissance 21

2 New World 23

New maps 23

New media 38

3 New Tangles 57

Trade 58

Finance 67

People 77

Technology 93

Beyond 'connected' 100

**4 Vitruvian Man** 109

From misery to middle class 112

A new golden age 120

Why now? 133

Tarnish on a golden age 146

Fresh stains 151

Glimpsing greatness 162

PART II Flourishing Genius 167**5 Copernican Revolutions** 169

Paradigm shifts 169

New shifts 178

The formula for flourishing genius 216

6 Cathedrals, Believers and Doubt 229

Collective efforts 229

Collective doubt 245

Four reasons to believe 253

Reasons to fear 269

PART III Flourishing Risk 281**7 The Pox Is Spreading, Venice Is Sinking** 283

The downside of linking up 283

Too complex to untangle, too concentrated to keep safe 286

New poxes 293

Merchants of destruction 307

Taking nothing for granted 316



8 Prophets and Bonfires 335

Populist bonfires 335

A second bonfire of vanity 342

From bonfire to revolution 355

A new crisis of faith 363

Losing control of the narrative 373

Steering the second Renaissance 378

PART IV The Contest for Our Future 383**9 David 385**

Magnify flourishing genius 387

Mitigate flourishing risk 415

Goliath 442

Notes 444*Index* 493



PREFACE TO THE PAPERBACK EDITION

‘The present age is a *contest*. Hand in hand with its recognition comes the urgent responsibility to join it.’ (*Age of Discovery*, p. 2).



We led the hardcover edition of this book with an urgent call to action, because our research showed that rapid social, demographic and technological change was likely to shock much of the ‘status quo’ that we all take for granted every day. On that basis we predicted both that Britain would vote to ‘Brexit’ from the European Union and that Donald Trump would be elected President of the United States.



Shock – a seemingly relentless theme nowadays – is personal proof that whatever lens we’ve been looking through to see the world no longer shows things as they really are. We need to shatter that lens – and with it, binary divisions that can warp our sight: globalization versus nationalism; open doors versus xenophobia; information abundance versus fake news; the lifted up versus the left behind.

We need to develop for ourselves a wider way of seeing the world. The sooner we do that, the less time we’ll waste frozen in disbelief, and the more time we’ll spend helping ourselves, our



families, our organizations and communities to thrive through the upheavals to come.

This book is our lens for seeing the moment we're in. Every shocking day since the first edition's release has offered new proof of its urgency.

The title, *Age of Discovery*, plays on our misconceptions of both the past and the present. It evokes an optimistic vision of humanity blown by scientific, economic and social winds – zigging and zagging, surely, but always *progressing* toward a better, New World. In hindsight, that's how many of us viewed our present circumstances. We thought we were passengers on a ship at sea, with little control over the weather, yet lulled into complacency by our general heading and the apparent competence of our captains.

Now, recent reversals have made us wise to our true predicament. In an age of discovery, there is no inevitable path of progress, and there are no passengers. We all need to learn how to pilot the ship: between the good and bad consequences of global entanglement; between forces of inclusion and exclusion; between flourishing genius and flourishing risks. The present seems a constant struggle to navigate these awesome, paradoxical forces.

But we've been here before.

And the wisdom of history can be our compass, if we choose to receive it.



We hope that this book empowers readers to make sense of the extraordinary moment we are in, and to chart a course toward a thriving future.

Chris Kutarna and Ian Goldin

Oxford

July 2017.



ACKNOWLEDGEMENTS

This book covers an unusually broad set of subjects, historical references and disciplines. It would not have come together without the expert guidance, research assistance, friendship and support of many people. And we could not have wished for a richer and more stimulating community, or more generous and knowledgeable sources, than our colleagues in the Oxford Martin School and across the University of Oxford.

Drawing on the Renaissance helps make sense of the present and of the choices we all face. Seeing our time through a long-term lens helps put our often confusing world in perspective. But history needs to be interpreted with care, since many concepts that are core to the present day – say, ‘science’ – were understood very differently half a millennium ago. We are most grateful to Diarmaid MacCulloch and Howard Hotson, both professors of history at Oxford, who generously offered guidance. Their extraordinary knowledge of the fifteenth and sixteenth centuries helped us to find the balance between the wisdom of past centuries that is relevant to today by virtue of our shared humanity, and that which has been rendered irrelevant by social and technological change.





On the contemporary side of this story, we are grateful to Eugene Rogan for introducing us to Nadia Oweidat, whose insights have deepened our understanding of extremism. Angus Deaton generously shared wisdom and figures from his work in economics. Terry Dwyer and Kazem Rahimi helped us understand medical matters. Recent graduates from the history, theology, physics, chemistry, medicine, economics, politics and philosophy departments at the University of Oxford have provided research assistance to check and supplement our facts, sources and arguments, and for this we thank Ernesto Oyarbide, Jonathan Griffiths, Julian Ratcliffe, Paul Taylor and Gerhard Toews. We owe special thanks to Maximilia Lane, who expertly hunted down facts that others could not, and offered numerous improvements to the text. Needless to say, we alone are responsible for any errors that remain.

The Bodleian Library is an international treasure, and we are most grateful to Richard Ovenden, the Bodleian Librarian, for his enthusiastic support, to Nick Millea, Map Librarian, and to Michael Athanson Deputy Map Librarian, for the historical maps that are presented in this book. We are grateful to the publishers who have permitted us to reproduce their material, to Claire Jordan for securing our necessary permissions, and to Diarmaid MacCulloch once again, for sharing his maps of Europe in the 1500s.





Ian's work on this book hinged on help from Lindsay Walker, who managed his diary, and from Laura Lauer, administrator of the Oxford Martin School, whose smooth running of the school freed Ian to focus on the questions raised, and the answers given, in this volume.

Chris could not have devoted years to this book without the immense patience of his business partner, Dave Anderson, and of his doctoral supervisor, Vivienne Shue. Both sacrificed their own milestones for this one. He also owes a deep debt to Jim Gallagher, who taught him how to write, and to Rick Boven at the Boston Consulting Group, who taught him how to make words mean something.

Our agent Esmond Harmsworth has been part of this book since its inception, helping us to define the topic and then to secure publishers. We are most grateful to the chief executive of Bloomsbury, Nigel Newton, for taking an enthusiastic interest in our manuscript, and to Ian Hallsworth, who has proven to be an outstanding editor, working with his colleagues in what we regard as an exemplary partnership.

Finally, our deepest gratitude is due to our family and friends, who have stood by us through the many long hours that this book has absorbed.

Ian Goldin and Chris Kutarna
Oxford
July 2017.







1

To Flounder or Flourish?

The moment we're in



If Michelangelo were reborn right now, amidst all the turmoil that marks this shocking moment we're in, would he flounder, or flourish again?

Every year, millions of people file into the Sistine Chapel to stare up in wonder at Michelangelo Buonarroti's *Creation of Adam*. Millions more pay homage to Leonardo da Vinci's *Mona Lisa*. Through five centuries, we have carefully preserved such Renaissance masterpieces, and cherished them, as objects of beauty and inspiration.

But they also challenge us.

The artists who crafted these feats of genius 500 years ago did not inhabit some magical age of universal beauty, but rather





a tumultuous moment – marked by historic milestones and discoveries, yes, but also wrenching upheaval. Their world was tangling together in a way it had never done before, thanks to Gutenberg’s recent invention of the printing press (1450s), Columbus’ discovery of the New World (1492) and Vasco da Gama’s discovery of a sea route to Asia’s riches (1497). And humanity’s fortunes were changing, in some ways radically. The Black Death had tapered off, Europe’s population was recovering and public health, wealth and education were all rising.

Genius flourished under these conditions, as evidenced by artistic achievements (especially from the 1490s to the 1520s), by Copernicus’ revolutionary theories of a sun-centred cosmos (1510s) and by similar advances in a wide range of fields, from biology to engineering to navigation to medicine. Basic, common-sense ‘truths’ that had stood unquestioned for centuries, even millennia, were eroding away. The earth did not stand still. The sun did not revolve around it. The ‘known’ world wasn’t even half of the whole. The human heart wasn’t the soul; it was a pump. In mere decades, printing boosted the production of books from hundreds to millions per year, and these weird facts and new ideas travelled farther, faster than had ever been possible.

But risk flourished, too. Terrifying new diseases spread like wildfire on both sides of the now-connected Atlantic. The Ottoman Turks – backed by a ‘new’ weapon, gunpowder –





conquered the eastern Mediterranean for Islam in a stunning series of land and naval victories that cast a threatening gloom over all of Europe. Martin Luther (1483-1546) leveraged Gutenberg's press to broadcast a new narrative—that society's hallowed institutions served only to fatten their own hierarchies. It spread faster than complacent elites could fathom. Europe broke into Protestant and Catholic halves; war and refugee crises ignited continent-wide.

Meanwhile, the populist priest Girolamo Savonarola (1452-1498) ignited a real fire—the Bonfire of the Vanities—in Florence, the very heart of Renaissance Europe. With apocalyptic sermons, Savonarola stoked people's worst reactions to rapid change. He promised Florentines a return to past glories if only they would join him in his campaign to burn away weak elites and their corrupt agendas. Enough did so that he was able to lord over the republic as *de facto* king (until, four years later, his political enemies crucified him).

Such was the age in which, on 8 September 1504, in Florence, Italy, Michelangelo unveiled his statue of *David* in the city's main square. Standing over 5 metres tall, weighing in at over 6 tons of fine Carrara marble, *David* was an instant monument to the city's wealth and to the sculptor's skill. See Figure 1.1.

David and Goliath was a familiar Old Testament story, about a brave young warrior who, in true underdog fashion, improbably defeated a giant foe in single combat. But with hammer and chisel,





FIGURE 1.1 *A moment etched in marble.*

Michelangelo Buonarroti (1501–1504). David – detail. Florence. Photo credit: Art Resource.

Michelangelo fixed into stone a moment that no one had seen before. It must have caused some confusion for those present at the unveiling. David's face and neck were tensed. His brow was



furrowed and his eyes focused determinedly upon some distant point. He stood, not triumphant atop the corpse of his enemy (the standard portrayal), but ready, with the implacable resolve of one who knows his next step but not its outcome. And then they saw the artist's meaning clearly: Michelangelo carved David in that fateful moment between decision and action, between realizing what he must do and summoning the courage to do it.

They knew that moment. They were in it.

The past is prologue

We are in it, too.

The present age is a contest: between the good and bad consequences of global entanglement and human development; between forces of inclusion and exclusion; between flourishing genius and flourishing risks. Whether we each flourish or flounder, and whether the twenty-first century goes down in the history books as one of humanity's best or worst, depends on what we all do to promote the possibilities and dampen the dangers that this contest brings.

The stakes could not be higher. We each have the perilous fortune to have been born into a historic moment – a decisive moment – when events and choices in our own lifetime will dictate the circumstances of many, many lifetimes to come.





Yes, it is the conceit of each generation to think so, but this time it's true. The long-term facts speak more loudly than our egos ever could. Humanity's shift into cities, begun some 10,000 years ago by our Neolithic ancestors, crossed the half-way mark in our own lifetimes.¹ We are the first generations of the urban epoch. Carbon pollution has pushed atmospheric greenhouse gases today to concentrations not seen since those Neolithic days; fourteen of the fifteen hottest years in our climate record have all come in the twenty-first century.² For the first time ever, the number of poor people in the world has plummeted (by over one billion people since 1990) *and* the overall population has swelled (by some two billion) at the same time. Scientists alive today outnumber all scientists who ever lived up to 1980, and – in part thanks to them – average life expectancy has risen more in the past fifty years than in the previous 1,000.

In the short term, too, history is being made. The Internet, effectively non-existent twenty years ago, linked one billion people by 2005, two billion people by 2010 and three billion people by 2015. Now, over half of humanity is online.³ China has erupted from autarky to become the world's biggest exporter and economy. India is close behind. The Berlin Wall is gone, and the clash of economic ideologies that defined the second half of the twentieth century is gone with it. All this feels like old news when set against the headlines since the turn of the new millennium: 9/11; devastating tsunamis and hurricanes; a global





financial crisis that struck dumb the world's highest-paid brains; a nuclear meltdown in hyper-safe Japan; acts of terrorism from Montreal to Manchester; Britain's vote to 'Brexit' the EU; America's vote to elect Donald Trump celebrity-in-chief – and other events that surprise us in a different way, like the explosion of mobile and social media, cracking the human genome, the advent of 3D printing, the breaking of long-standing taboos on gay marriage, the detection of gravitational waves and the discovery of earth-like planets orbiting nearby stars.

It seems that every day we wake up to a new shock. And *shock* itself is the most compelling evidence that this age is very different, because it's data that comes from within. Shock is our own personal proof of historic change – a psychic collision of reality and expectations – and it has been the relentless theme of all our lives. It agitates and animates us. It will continue to do so. Right now we don't talk much about geoengineering, organic energy, super-intelligent machines, bioengineered plagues, nanofactories or designer babies, but someday soon – surprise! – it may seem that we talk about little else.

We lack – and need – perspective

We don't know where we're headed, and so we let ourselves get pushed around – bullied even – by immediate crises and the anxieties they evoke. We retreat rather than reach out. In an





age when we *must* defy fear with courage, we hesitate instead. Globally, that's the present mood. The US and UK governments, once the world's chief promoters of free trade, now rally their citizens against it.⁴ Industry around the world is accumulating or distributing record levels of cash, rather than investing it. By late 2015, it was estimated that global corporations held over \$15 trillion in cash and cash equivalents – four times as much as a decade earlier.⁵ The S&P 500 companies as a group gave almost all their 2014 profits back to shareholders (via dividends and share buybacks), rather than bet on new projects and ideas.⁶ Both the political far right (which seeks to reverse society's opening up to gays, immigrants and global responsibilities) and the far left (which seeks to reverse society's opening up to trade and private enterprise) enjoy electoral success across much of the developed world. In the 1990s, the word 'globalization' was ubiquitous. For many, it implied a global coming together, and it captured grand hopes of a better world for everyone. Today, the term is anathema (except among politicians, who blame it for the problems they can't solve). See Figure 1.2.

What we lack, and so urgently need, is *perspective*. With it, we can see the contest that defines our lifetime and better assert our own will upon the wider forces rocking the world. When the next shocks hit, we can step back from their immediacy and place them in a broader context, in which we have more leverage over their meaning (and our response). Civic and political



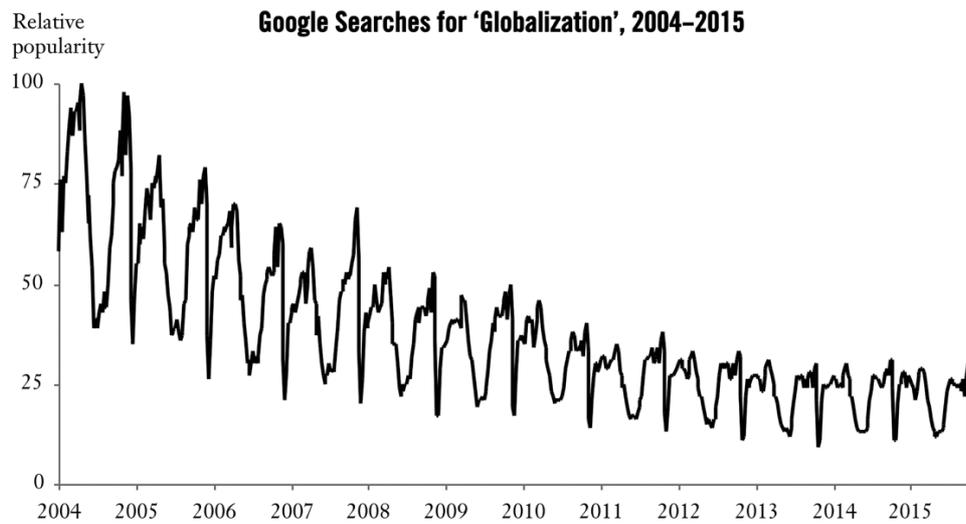


FIGURE 1.2 *Google searches for 'globalization' have been declining for a decade.*

Source: Google Trends (2015). 'Interest over Time: Globalization'. Retrieved from www.google.com/trends.

leaders need perspective to craft a positive vision that connects the big drivers of change with our daily lives. Businesspeople need perspective to cut through the chaos of 24/7 news and information to make capable decisions. Youth need perspective to find answers to their big, burning questions and a pathway for their own passions. Perspective is what enables each of us to transform the sum of our days into an epic journey. And it's what improves our chances of together making the twenty-first century humanity's best.

'Perspective is the guide and the gateway, and without it nothing can be done well.'⁷ When he wrote these words, Leonardo da Vinci (1452–1519) was counselling artists, but he could easily



have been counselling his whole generation. A contemporary of Michelangelo (1475–1564), Leonardo lived in the same moment of fateful contest that his peer had captured in marble. To gain perspective on the present age, we need only step back, look to the past, and realize: *We've been here before*. The forces that converged in Europe 500 years ago to spark genius and upend social order are present again in our lifetime. Only now they are stronger, and global.

That is the main message of this book. It should fill us with a mix of hope and determination. *Hope*, because amidst chaos the Renaissance left a legacy that we still celebrate, 500 years on, as one of history's brightest. We, too, can seize this moment. We can realize a new flourishing that in magnitude, geographic scope and positive consequences for human welfare will far surpass the first Renaissance – or, indeed, any other flourishing in history. *Determination*, because this new golden age will never simply arrive. We have to achieve it, in open defiance of the forces tearing it apart.

In 1517, Niccolò Machiavelli (1469–1527), one of the chief philosophers of his age and a founding father of modern political science, wrote:

Whoever wishes to foresee the future must consult the past; for human events ever resemble those of preceding times. This arises from the fact that they are produced by men





who have been, and ever will be, animated by the same passions. The result is that the same problems always exist in every era.⁸

We've been warned. The first Renaissance was a time of tremendous upheaval that strained society to, and often past, the breaking point. Now, we risk fumbling badly again, as individuals, as society and as a species – and we've had some big stumbles already. It's made many of us cynical and fearful for the future. If we want to attain the greatness for which humanity is once again eligible, we must keep faith in its possibility. We must broaden and share more widely the benefits of progress. We must combat ignorance with evidence, and fear with courage. And we must help one another to cope with the shocks that none of us will see coming.

The way forward

We reframe this present age as a second Renaissance in four parts.

Part I lays out the big, hard facts of the age, and rebuts the loose and often irresponsible rhetoric that pervades today's public discourse. We step back and make clear the connective and developmental forces that defined the Renaissance 500 years ago and which, over the past quarter-century, have completely





remade the world we live in now. Columbus' voyages of discovery, the fall of the Berlin Wall – both events highlighted the breakdown of long-standing barriers of ignorance and myth, and the opening of fresh, planet-wide systems of political and economic exchange. The Gutenberg press, the internet – both shifted the whole of human communication to a new normal: information abundance, cheap distribution, radical variety and wide participation.

Developmental forces – gains in health, wealth and education – also underlay human progress then, and lift us now. War and disease, throughout history the two heaviest drags on human progress, subsided in the decades leading up to the Renaissance. Today, overall battlefield deaths are in steep retreat – even taking into account the violence surrounding the Syrian civil war – and successful campaigns against disease and aging have added nearly two full decades to global life expectancy.⁹ Then, literacy and numeracy skills were transformed from elite luxuries to precious commodities. Now, the incoming generation of adults is the first in history to be near-universally literate.

These revolutions in technology, demography, health and economics add momentum and vitality to the sum of human activity. With each turn, we accumulate and reinvest more human capital, and exchange and act with ever-rising intensity, until, as we show in Part II, a flourishing of genius accelerates us even more.





The positive legacy of the Renaissance was an eruption of genius – exceptional achievements in European art, science and philosophy unrivalled in the preceding millennium, which set Europe on course towards the Scientific Revolution and Enlightenment in the centuries that followed. We are in the midst of another such eruption, in scale and scope far surpassing theirs. We know this, first because the conditions match and second, from the roll call of fundamental breakthroughs we've already begun to ring up. We show how the forces identified in Part I are helping genius to blossom now, and we foreshadow the deep changes this flourishing will work upon humanity. We also probe humanity's expanding powers of *collective* achievement: our new, disruptive capacity for sharing and collaboration that inflates the boundaries of the possible. During the Renaissance, collective efforts raised the world's largest cathedrals; today, mass collaborations are finding new cures for diseases, making humanity's knowledge base multilingual and mapping the visible universe.

Part III, Flourishing Risk, balances hope with caution. The same connective and developmental forces that fuel human imagination also breed complexity and concentrate our activities in dangerous ways. These twin consequences heighten our exposure to an especially perilous species of risk – 'systemic' risk. Five hundred years ago, systemic shocks caused some of the moments of greatest grief – strange new diseases that struck and





spread with terrifying speed; ruinous financial collapses in new credit markets; the obsolescence of whole communities built along the Silk Roads as the new sea route to Asia diverted trade away. The 2008 financial crisis has already taught us to respect this class of threat, but we do not yet appreciate how widespread it has become.

We are, however, becoming familiar with the systemic risks brewing within our national- and geo-politics. A Renaissance age creates big winners and big losers. Our social bargain is weakening, just when the technologies to summon solidarity, or rally rebellion, are made common and powerful. Five hundred years ago, the Bonfire of the Vanities, religious wars, the Inquisition and ever more frequent popular revolts tore at the peace in which genius laboured and smothered some of the brightest lights of the age. Now, voices of extremism, protectionism and xenophobia likewise tear apart the same connections that spark present-day genius, and popular anger has sapped our public institutions of the legitimacy needed to take bold actions.

The journey ends in Part IV, The Contest for Our Future. We lay out what we all need to do – government, business and civil society, all of us – to achieve the greatness and weather the crises that this age makes possible. Will we repeat the glories of the first Renaissance, the misery or both? That is the question, the Goliath, we all must face.





Good housekeeping

But first, we need to tidy up three issues.

What does ‘Renaissance’ actually mean?

History students the world over have confronted this question for over a century. ‘Neither in time, extent, content, nor significance is the concept Renaissance defined. It suffers from vagueness, incompleteness, and chance ... It is an almost unusable term.’¹⁰ Those lines were written by a Dutch historian, Johan Huizinga – in 1920. In the century since, the scholarly debate has only grown murkier. The main gripe historians have with the word ‘Renaissance’ is that it misleadingly makes the period sound universally pretty. That usage was begun by the Italian artist-historian Giorgio Vasari (1511–1574), in his 1550 book *The Lives of the Most Excellent Painters, Sculptors, and Architects*, to glorify recent artistic trends and distance them from prior, gothic styles. Nineteenth-century European historians picked up the term and broadened its meaning to describe a time of artistic, cultural and intellectual flourishing (a meaning that we retain today in phrases like ‘Renaissance Man’). In doing so, they weren’t dispassionately describing the period in which Leonardo, Michelangelo and their peers lived. Rather, they were crafting the idea that ‘Renaissance Europe’ had leapfrogged other





civilizations – an idea that was both origin story and justification for nineteenth-century European imperialism.¹¹

Today, historians are quick to point out that ‘Renaissance Europe’ was ugly, too. Lest we forget, less than a decade after Michelangelo finished painting his Sistine Chapel, smallpox and other European germs nearly exterminated the Aztecs, the Incas and other natives in the New World. When historians use the word ‘Renaissance’, therefore, they do so critically and cautiously, referring mainly to a ‘rebirth’ in fifteenth- and sixteenth-century Europe of certain knowledge, styles and values recovered from ancient Greece and Rome.

In this book, we begin with the term’s popular meaning today – as a rare moment of mass flourishing. That notion is a good starting point, because it accurately describes the present world we all inhabit. But only if we can see both sides. Throughout these pages we emphasize how, then and now, a Renaissance age is pregnant with both goods and bads, genius and risk. By the end, our definition is clear: a Renaissance is a contest for the future at a moment when the stakes are highest.

When was the Renaissance?

History is all one piece: look closely, and threads weaving one chapter into the next can always be found. Scholars bookmark ‘beginnings’ and ‘endings’ to make the reading of our collective





story manageable, and to help make the broad course of history clear, but such lines should be drawn in pencil only.

In this book, we look back mainly to a single century, from 1450 to 1550. The year 1450 is a solid starting point. Leonardo da Vinci was born in 1452, and during the period 1452–1454, a series of events took place that gave the second half of that century a very different feel from the first. At about the same time: England and France ended their Hundred Years War, a violent disruption to daily life that had dragged on since 1337; Constantinople, the ancient Roman capital that had guarded Europe's eastern frontier for over 1,100 years, finally fell to the new gunpowder cannons of the Ottoman Empire; and the warring Italian powers – Milan, Venice, Florence, Naples and the Papal States – signed into being the Italic League, a mutual non-aggression pact that allowed the whole peninsula to demobilize and invest its energies into peacetime pursuits.¹²

For similar reasons, we mark 1990 as the approximate start date for the second Renaissance. In the span of just a few years: the Cold War ended, the Berlin Wall fell, China rejoined the world economy and the commercial internet lit up. Suddenly, the world felt quite different. As we will see in Part I, the hard data shows that this period *was* different.

We loosely bookend the first Renaissance at about 1550. We must follow the evolution of ideas and events for however long it takes to clarify their meaning in the big picture. But in practice,





one century gives a healthy perspective on many changes. Already by 1550, the consequences of the age, good and bad, were becoming clear – as were the wisdom and foolishness of the choices people had made along the way.

We don't predict when the second Renaissance will end. But the present 'age' is broader than this year or this decade. It's a phenomenon, a contest, that will shape the whole twenty-first century.

Why focus on Europe?

Renaissances, as we've defined them, can be found in every civilization. What took place in fifteenth- and sixteenth-century Europe has some broad parallels with the Mayan Classic Period (300–900), the early centuries of Korea's Chosŏn Dynasty (1392–1897), the Islamic Golden Age (750–1260), China's Tang Dynasty (618–907), India's Gupta Empire (320–550) and the Mughal Empire under Akbar the Great (1556–1605). As Peter Frankopan shows in his magisterial *The Silk Roads, Asia and the Arab region* may proudly claim to have been the source of much of humanity's progress through history.¹³ We encourage others to embark on the project of looking back to those periods for more insights into our present day. This book draws perspective from a particular moment of the European experience.





Why? It's not because fifteenth-century Europe was the most advanced civilization at that time. China held that distinction, and had for centuries. As early as the twelfth century, China's then-capital, Kaifeng, was a million-person metropolis. Three hundred years before Gutenberg, Chinese block-printers were already mass-producing books cheaply enough for even modest households to consume.¹⁴ The Ottoman Empire of the fifteenth and sixteenth centuries, by then on Europe's eastern doorstep, ran a far more sophisticated, cosmopolitan state than anything Machiavelli wrote about. And Muslims, not Christians, were by far the world's largest faith community. Europe was often regarded as a backwater, and many fifteenth-century world maps depicted it as such – on the margin.

But with the advent of the Renaissance, this suddenly began to change. Over the next few centuries, Europe caught up with, then overtook, all other civilizations on most measures of human progress and set the basic configuration for the world we live in now. It's the closest cousin, and offers the most direct lessons, to the present.

Of course, many details differ between the events of 500 years past and those of today. But do those details mean we should ignore what the past has to teach us about our own age of flourishing genius and risk? You must decide that for yourself. We think you will come to the same realization:

This is a second Renaissance.

