'Lucid and persuasive'
Niall Ferguson

The Digital Republic

On Freedom and Democracy in the 21st Century

JAMIE SUSSKIND

BLOOMSBURY

Copyrighted material

BLOOMSBURY PUBLISHING
Bloomsbury Publishing Plc
50 Bedford Square, London, WC1B 3DP, UK
29 Earlsfort Terrace, Dublin 2, Ireland

BLOOMSBURY, BLOOMSBURY PUBLISHING and the Diana logo are trademarks of Bloomsbury Publishing Plc

First published in Great Britain 2022

Copyright © Jamie Susskind, 2022

Jamie Susskind has asserted his right under the Copyright, Designs and Patents Act, 1988, to be identified as Author 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

Extract from Hannah Arendt's *On Revolution* published by Penguin Books © Hannah Arendt, 1963.
Extract from Vasily Grossman's *Life and Fate* © editions l'Age d'Homme, 1980, English translation copyright © Collins Hamill, 1985.
Extract from Thomas Emerson's *The System of Freedom of Expression* published by Random House © Thomas Emerson, 1970.

Bloomsbury Publishing Plc does not have any control over, or responsibility for, any third-party websites referred to or in this book. All internet addresses given in this book were correct at the time of going to press. The author and publisher regret any inconvenience caused if addresses have changed or sites have ceased to exist, but can accept no responsibility for any such changes

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

ISBN: HB: 978-1-5266-2548-9; TPB: 978-1-5266-2530-4; eBook: 978-1-5266-2527-4; ePDF: 978-1-5266-5041-2

Typeset by Newgen KnowledgeWorks Pvt. Ltd., Chennai, India

To find out more about our authors and books visit www.bloomsbury.com and sign up for our newsletters

Copyrighted material

Contents

Preface xiii

PART ONE: THE AGE OF THE DIGITAL REPUBLIC

Introduction: Unaccountable Power 3
1 The Indignant Spirit 19
2 Thinking, Old and New 25

PART TWO: THE HOUSE OF POWER

3 Autocrats of Information 35
4 Data's Dominion 39
5 Masters of Perception 45
6 Republic of Reason 51
7 The Automation of Deliberation 57

PART THREE: THE DIGITAL IS POLITICAL

8 The Morality of Code 65
9 The Computational Ideology 71
10 Technology and Domination 79

PART FOUR: THE MARKETPLACE OF IDEALS

11 The Market's Place 85

Copyrighted material

12 Selfie 93
13 Ethics Washing 99
14 The Consent Trap 105

PART FIVE: THE GHOST OF GOVERNANCE

15 Making Our Own Laws 115
16 The Mild West 119
17 Private Order 127

PART SIX: FOUNDATIONS OF THE DIGITAL REPUBLIC

18 Four Principles 135
19 Technology and Democracy 145
20 Deliberative Mini-Publics 153
21 Republican Rights 163
22 Republic of Standards 169

PART SEVEN: COUNTERPOWER

23 Tech Tribunals 177
24 Collective Enforcement 185
25 Certified Republic 191
26 Responsible Adults 197
27 Republican Internationalism 203

PART EIGHT: OPENNESS

28 A New Inspectorate 213
29 Zones of Darkness 217
30 Transparency about Transparency 221
31 A Duty of Openness 225

PART NINE: GIANTS, DATA AND ALGORITHMS

32 Antitrust, Awakened 235

Copyrighted material

33 Republican Antitrust 243
34 Beyond Privacy 249
35 Acceptable Algorithms 257

PART TEN: GOVERNING SOCIAL MEDIA

36 The Battlefield of Ideas 267
37 Toasters with Pictures 277
38 A System of Free Expression 285
39 Governing Social Media 293

Conclusion: The Digital Republic 301

Acknowledgements 307
Notes 311
Bibliography 387
Index 435

Copyrighted material

Copyrighted material

Preface

Not long ago, the tech industry was widely admired and the internet was regarded as a tonic for freedom and democracy. Not anymore. Every day, the headlines blaze with reports of racist algorithms, data leaks and social media platforms festering with falsehood and hate. Politicians denounce the tech giants in extravagant terms. Regulators crack their knuckles ominously. In the boardrooms of Silicon Valley, lawyers and lobbyists are limbering up for the fight of their lives.

What went wrong?

It is tempting to point the finger at a few big companies and the people who run them. Indeed, the story of digital technology is often told as a kind of Shakespearean tragedy, propelled by the flaws of its leading characters. But what if human failings are only a small part of the story? What if the problems at the heart of the tech industry are much bigger than any individual or company?

This book aims to persuade you that the challenges presented by digital technology are not the fault of a few bad apples. They are the result of our shared failure to govern technology properly, a failure derived from decades of muddled ideas and wishful thinking. To reclaim the promise of digital technology, and protect the things that matter most to us, we will need to do more than wag our fingers or wring our hands. The task is more fundamental. We will have to change the way we *think* about technology, ourselves and each other.

This book suggests how.

Copyrighted material

Copyrighted material

PART I

THE AGE OF THE DIGITAL REPUBLIC

We cannot solve our problems with the same thinking we used when we created them.
Albert Einstein (apocryphal)

Copyrighted material

Copyrighted material

Introduction: Unaccountable Power

This book is about how freedom and democracy can survive, and even flourish, in a world transformed by digital technology. It is for those who are excited by digital innovation, but concerned that we may be unprepared for the future that is coming into view.

The central challenge can be captured in two words: unaccountable power. In the early days of the commercial internet, scholars discovered that, in cyberspace, computer code operated as a kind of 'law'.[1] Not law as we know it – public rules decided by legislators and judges – but a different kind of law, embedded in the tech itself. Whenever we use an app, platform, smartphone or computer, we have no choice but to follow the strict rules that are coded into these technologies. Some rules are commonplace, like the rule that *you cannot access this system without the correct password*. Hence

Copyrighted material

the lad who lost more than $200 million because he couldn't remember the password to his virtual currency wallet.[2] Other rules are more controversial. In late 2020, Twitter made it impossible for users to share a controversial *New York Post* article containing allegations of corruption about Joe Biden's son, on the basis that it violated the platform's rules against sharing hacked material.[3] As more and more of our actions, interactions and transactions are mediated through digital technology, those who write code increasingly write the rules by which the rest of us live. Software engineers are becoming social engineers.[4]

Code carries a different kind of power, too: the power to affect how we perceive the world. Every time we use a search engine, digital assistant, news app, social media platform or the like, we let others subtly shape our outlook. Digital systems propel issues to the top of the public agenda, or make them disappear. They frame the way we see ourselves and each other. They influence our norms and customs; what we regard as true or false, real or fake, right or wrong. This form of power is more subtle than the ability to write hard-edged rules. It operates on hearts and minds. But it is no less potent for that.

Another form of power lies in the capacity of digital technologies to gather data. It is predicted that the world will have 175 zettabytes of data by 2025. If you downloaded that onto DVDs (remember DVDs?), the resulting stack of discs would stretch round the planet 222 times.[5] More and more of our thoughts, feelings, movements, purchases and utterances are captured and analysed by systems working silently around us. With each passing year, they get better at identifying our tastes, fears and habits. This leaves us increasingly exposed to influence and anxious about the data trail we leave behind.

Despite what is sometimes claimed, digital systems are not morally neutral or objective. They are laden with biases, prejudices and priorities. Every algorithm used to determine job or credit applications, for instance, is necessarily engineered according to a particular set of values. The same is true of other algorithms too. In 2021, Facebook users who watched a video featuring black

Copyrighted material

men received an automated prompt asking if they would like to 'keep seeing videos about Primates'.[6] This error was probably the result of poor-quality training data. But it was not an anomaly. Technology doesn't merely shunt us around. It has the power to shape the moral character of society, for better or worse.

In short: technologies exert power; that power is growing; and it is entrusted to those who write code. The tricky thing is that tech doesn't often look obviously *political*, at least as that term is usually understood. Digital power doesn't reside in a palace or parliament. It operates outside the traditional channels of high politics. This presents a danger. If we continue down our current path, liberty could be stifled, and democracy undermined, by diffuse technical forces that cannot be attributed to any single corporation or person.[7]

***

How have the advanced democracies of the world reacted to the rise of this new and strange form of power in their midst? Until recently, with a mix of confusion and inertia, particularly in the US, where action is needed most.

Take the most recent presidential election. Before the campaign, the *New Yorker* magazine ran an article headlined *Can Mark Zuckerberg Fix Facebook Before It Breaks Democracy?*[8] Then, once the campaign was underway, Joe Biden started a petition asking Facebook to keep 'paid misinformation' from influencing the election.[9] And on Capitol Hill, Speaker of the House of Representatives Nancy Pelosi plaintively asked advertisers to tell technology companies to reduce online misinformation.[10]

Stories like these are so common that they have lost their capacity to shock. But in a healthy political system, public officials should not have to plead with corporations to protect the integrity of the democratic system. It shouldn't be for Mr Zuckerberg, or advertising executives, or any business for that matter, to decide the fate of a great democracy. Must we simply hope that the tech companies will do the right thing with the power at their disposal? Or should we be asking a different question: *why are they given that choice at all?*

Copyrighted material

In the face of growing criticism, the tech industry has sought to reassure the world that market competition will compel firms to act in the interests of consumers. After all, if businesses don't give the people what they want, they will lose out to their competitors – right? This argument is seductive but ultimately wrong. This book argues that instead of reining in the might of tech corporations, the market often gives them more power. Instead of curtailing bad behaviour, the market encourages it. And instead of empowering citizens, the market strips us of our individual and collective agency.

Self-regulation has been suggested as an alternative way to hold the tech industry to account. But when tech lobbyists speak of self-regulation, they are not describing it as it is understood by professionals like doctors. Unlike in medicine, there are no mandatory ethical qualifications for working as a software engineer or technology executive. There is no enforceable industry code of conduct. There is no obligatory certification. There is no duty to put the public ahead of profit. There are few consequences for serious moral failings; no real fear of being suspended or struck off. Recent years have seen an explosion of AI ethics charters and the like, filled with well-meaning generalities about the responsible use of powerful computers. But without consequences for breaching them, these charters are just toothless statements of aspiration. The tech industry is basically saying: *trust us*. But blind trust is not how we govern doctors, lawyers, bankers, pilots or anyone else in unelected positions of social responsibility. Tech is the exception, and it's not clear why.

What about laws? Not the 'law' of code but the actual laws that are supposed to protect us from the predations of the powerful? Contrary to myth, digital technology is not unregulated. It is governed by many overlapping legal regimes. The trouble is that today's laws don't protect us in the way that we need protecting. They leave individuals to fend for themselves. They let tech companies get away with serious misconduct. Some even shield platforms from legal liabilities to which they would otherwise be exposed.

Copyrighted material

The growth in technology's power has not been matched by corresponding growth in legal responsibility. But if you think about it, there is no good reason why business corporations should be able to wield great influence over the rest of us simply because they design and control digital technologies. Freedom, wrote the Roman jurist Cicero more than twenty centuries ago, does not mean 'having a just master'. It means having no master at all.[11] Cicero and his followers believed that important decisions about our lives – what we believe, what we say and do, how we govern ourselves – must be our own, not handed over to powerful others. But the more power we delegate to those who write code, the less free we remain to plot our own course.

History tells us that unaccountable power of any kind is a disease that eats away at society. It erodes the bonds of community that hold us together. It undermines the capacity of democratic institutions. It tarnishes our dignity and diminishes our liberty. And often it does so *inadvertently*, without anyone intending for it to happen. Political decay is rarely the work of a dastardly magnate steepling his fingers in a volcanic lair.

It has been too easy, in recent years, to roll our eyes at Mark Zuckerberg and the other Silicon Valley bigwigs whose mistakes always seem so obvious in hindsight. In the final analysis, however, the problem isn't Mark Zuckerberg; it's the *idea* of Mark Zuckerberg. It's that he, and all the other Zuckerbergs out there and still to come, will be able to make decisions about our collective fate with impunity. Some Zuckerbergs will be wise, other Zuckerbergs will be knaves. But in a world of increasingly powerful Zuckerbergs, where does that leave the rest of us? Passive and impotent in the face of forces we cannot understand, still less control.

All this may sound a little excessive in the early 2020s. After all, most consumer tech feels empowering, and the world isn't falling apart quite yet, despite some of the more sensational reporting. But that is no cause for comfort or complacency. We have to look ahead. As the rate of technological change accelerates, technology's power will grow faster than our rickety social systems are able to

Copyrighted material

adapt. Our laws are ageing. Our institutions are crumbling. Our governing ideas are muddled and outdated. And into this turmoil we are introducing systems so powerful that they would shake the foundations of even the most well-ordered societies.

No wonder we feel out of control – we are.

***

Let's start by framing the problem properly. The current laws are not the natural order of things. They are human-made creations. We can undo or remake them however we choose. The choice has never been between *regulation* and *deregulation*. The real question is: *what kind of regulation is best?*[12]

If you're interested in the practical steps that can be taken to govern the tech industry more effectively, then this book should be of value to you. It offers lots of concrete proposals. New legal standards. New public bodies and institutions. New duties on platforms. New rights for ordinary citizens. New regulators with powers of audit, inspection, certification and enforcement. New codes of conduct for people in the tech industry. And along the way, it considers questions like:

- What is 'ethics washing' and why is it a problem?
- Is it possible to 'democratise' digital technology?
- What kinds of rules and standards should govern important algorithms?
- Should powerful figures in the tech industry be regulated, like doctors or lawyers?
- Why are 'terms and conditions' so useless?
- Is antitrust law fit for purpose?
- What rules should govern the use and abuse of personal data?
- Should technology be governed globally, or by states or regions?
- Can we regulate social media without stifling freedom of speech?

Copyrighted material

Many countries around the world are trying to answer these questions. The last few years have seen a flurry of legislative and regulatory initiatives, with the EU at the head of the pack. There is also a growing body of academic research on the governance of digital technology, lots of which can be found in the endnotes of this book. But I believe these policy questions can't be answered – at least, not in a coherent or sustainable way – without first tackling some even more fundamental issues:

- Why do we regulate things at all?
- What is the role of law and regulation in a free and democratic society?
- What is our purpose in regulating digital technology? What are we trying to achieve?

These are big (and, I think, exciting) questions. They are questions for philosophers, not just lawyers or politicians. And this book suggests, in outline, one big answer to them: a guide to *why* we govern things, *how* we should govern digital technology and *what* we should aim to achieve by doing so. The idea is ancient in origin – drawn from some of the oldest traditions in Western political culture – but modern in application. I call it *digital republicanism*.

***

The term *republicanism* can be confusing, so it's first worth explaining what, in this context, it doesn't mean. It's not a reference to the modern Republican Party in the US, though obviously the early party saw itself as belonging to the republican tradition. Nor is it a reference to the distinction between a republic and a democracy sometimes attributed to James Madison (as when people say, *America is a republic, not a democracy*). Nor, finally, is republicanism about executing kings and queens, although the guillotine is part of republicanism's history. No, the republicanism described in this book is an ancient way of thinking about *power* and *freedom*. It cannot be claimed either by left or right. It is not the exclusive

Copyrighted material

preserve of any culture or era. It has come to the fore at many of history's turning points – wars and revolutions, declarations and constitutions – and found expression in the Roman Republic, the English and American revolutions and many other political movements besides.

In essence, to be a republican is to oppose social structures that enable one group to exercise unaccountable power, also known as *domination*, over others.[13] In the past, republicans struggled against the domination of kings, emperors, conquerors, priests, landlords and bosses. They did so not by complaining about the cruelty or ignorance of their oppressors, but by reforming the social structures that allowed their oppressors to dominate them in the first place. Republicans – I stress, in the sense of the word used in this book – oppose the very idea of empire, not just bad emperors. They reject the institution of absolute monarchy, not just the flaws of particular kings. They fight for tenants' rights, not just for more beneficent landlords. They demand legal protections at work, not just kinder bosses. In the incarnation introduced in this book, they object to the *idea* of someone with Mark Zuckerberg's power, not Mr Zuckerberg himself.

In the Roman Republic, the greatest threat to liberty was believed to lie in *imperium*: unaccountable power in the hands of the state. Centuries later, that threat has not gone away. The state remains a formidable concentration of power, and digital technology is set to supercharge that power. But republicanism also warns against *dominium*: unaccountable power in the hands of private individuals and corporations.[14] James Madison understood this, urging of the need 'not only to guard the society against the oppression of its rulers; but to guard one part of the society against the injustice of the other part'.[15]

For the *digital* republican, I argue, the law's purpose should be to keep the awesome power of digital technology from escaping acceptable bounds of control, and to ensure that tech is not allowed (by design or accident) to undermine the values of a free and democratic society. That translates into four basic principles, which should guide the future of regulation in this field:

Copyrighted material

1. The law must preserve the basic institutions necessary for a free society (such as a functioning democratic and judicial system).
2. The law should reduce the unaccountable power of those who design and control digital technology, and keep that power to a minimum.
3. The law should ensure, as far as possible, that powerful technologies reflect the moral and civic values of the people who live under their power.
4. The law should restrain government too, and regulation should always be designed in a way that involves as little state intrusion as possible.

You might be thinking that these principles seem rather obvious. If so – good news – you may already be a republican. I believe that the 'lost language of freedom' in the republican philosophy does indeed reflect many of our shared ideals and intuitions.[16] Indeed, many of the proposals in this book are unashamedly based on the work of scholars and activists who might never have previously seen themselves as republicans.

In practice, however, a transition to digital republicanism would represent a sharp change in direction. In the last few decades, digital technology has mainly developed according to a rival system of thought that I call *market individualism*.[17] Market individualism is old, if not quite as old as republicanism. It has been a feature of Western political thought for centuries. It holds that social progress is primarily the result of individuals pursuing their own interests. It sees society as the product of a grand contractual bargain between each of its members; a vehicle for the pursuit of individual advantage, with no overarching pursuit of the common good. For the market individualist, the law is fundamentally hostile to liberty, such that more law generally means less freedom.

Market individualism has shaped the modern tech industry. In the name of economic orthodoxy, we have rejected laws that curtail the power of tech companies, while passing laws that protect them. In the name of liberty, we have fixated on the power

Copyrighted material

of the state, while ignoring the swelling power of corporations. In the name of innovation, we have treated tech primarily as an economic phenomenon, when all the signs are that it has become a political force too. In the name of individual autonomy, we have left people to fend for themselves in the face of vast corporate power, protected only by pop-up 'terms and conditions' that few read and even fewer understand.

Often unknowingly, Silicon Valley insiders and political reformers alike have adopted the language of market individualism, deploying its concepts and precepts as if they were the only way of imagining and ordering the world. But another way is possible. Unless we start to *think* differently about technology, we will keep making the same mistakes.

So this isn't just a book about tech policy. It tries to offer a vision for a freer and more democratic society. It imagines a new type of society – a digital republic – starting with its historical foundations, then the philosophical scaffolding and finally the architecture of laws and institutions.

Even while writing this book, there has been a burst of legislative initiatives across the world. Some of these proposals are republican in spirit if not in name.[18] It remains to be seen what will become of them. But in the UK, the US and the EU at least, the ideas remain in flux. So this is not a book about specific laws proposed by the EU, or by other governments thinking along the same lines. Such a book would be out-of-date within weeks. Instead it seeks to offer a more durable guide for those who want to understand how we have governed technology until now, and what we might do better in the future.

***

To manage expectations, if you hanker after hardcore analysis of technical protocols, or lust for line-by-line study of the General Data Protection Regulation, you are going be disappointed. Although it tries to bring some of the best ideas from academia to a wider audience, this is not a textbook. It offers a sketch of a different

Copyrighted material

future, not a blueprint (though further detail can often be found in the endnotes). Nor is this a work of political strategy. The grim reality is that in most democracies, debates about tech regulation are beset by political gridlock. Achieving meaningful change is going to be fiendishly hard. My modest hope is that if we can make the arguments for reform a little clearer, that might remove at least one obstacle from the path of progress.

I also recognise that most of the proposals in this book would not be appropriate in every country – only those with a functioning democratic system and the rule of law. On the thorny question of how technology ought to be governed in nondemocratic countries, I defer to others.

Some readers may wonder why more time is not dedicated to *global* governance initiatives. My view is that global governance of technology is probably more likely to emerge from a patchwork of national efforts rather than a top-down mission to impose a world law.[19] But even if that's wrong, I suggest that there are sensible reasons for trying to govern technology at the national or regional level first, even imperfectly (chapter twenty-seven).

Finally, there are many books out there for those who want to know how to better protect their online identity, manage their personal data or protect their children from online harm. This is not one of those books. Instead, this book respectfully departs from the market individualist assumption that we – you and I, as individuals – must be the first and last line of defence when it comes to protecting our digital freedom. The truth is that there are serious limits to what we can do by ourselves. As well as asking *what can I do to protect myself?* the republican asks, *what can we do to protect ourselves and each other?*

***

As you read this book, you may have legitimate doubts about what is being proposed. Wouldn't that do more harm than good? That's all very well in theory, but would it work in practice? That sounds expensive; who's going to pay for it? This wouldn't be a book

Copyrighted material

about political change if it didn't provoke reactions like these. *Res technica, res publica* as the Romans might have said. The digital is political.

There are certainly reasons to temper our resolve with caution. Any new system of governance will have to reckon with the fact that innovation moves faster than legislation. Public authorities are usually playing catch-up.[20] Bedraggled regulators are often outgunned inside and outside the courtroom. As K. Rahman Sabeel notes, complex industries like digital technology put regulators at an 'epistemic disadvantage' because the industries themselves hoard the information needed to come up with new laws.[21]

Then there's the perennial risk that lobbyists and special interests will 'capture' the regulatory process and turn it to their own advantage.[22] Regulators, inspectors, judges and the like could get too close to those on whom they are supposed to be keeping an eye – perhaps because they come from within the industry themselves, or (worse) because they want juicy jobs in the private sector after they leave public office.[23] Not so long ago, Facebook's top public relations guy, Nick Clegg, was the Deputy Prime Minister of the United Kingdom. In 2020, the director of content standards at Ofcom, the UK's putative regulator of social media, also joined Facebook – perhaps to advise it on regulations he had himself helped to write. The 'revolving door' is a particular problem in industries like tech in which there is a relatively small pool of experts.[24]

Another worry is that new laws and regulations become political footballs kicked around by politicians looking for a quick win for their side, rather than lasting reform. That risk is particularly acute when it comes to governing social media platforms (part ten), which have become fiercely contested fields of political struggle in themselves.

An even thornier challenge is that regulation can lock in the advantages of big players while making it harder for new entrants to get a foothold.[25] Sometimes this is simply because bigger companies have more influence on the legislative process, and the laws are tailored to their needs. But it can also be a side-effect. It's easier for companies with deep pockets and armies of lawyers to deal with 'regulatory thickets' than it is for smaller ones on

Copyrighted material

tighter budgets.[26] Indeed, one criticism of the EU's flagship data governance regime is that younger companies have found it harder to comply than more established ones.[27]

These challenges are formidable but not new. Some are as old as the idea of governance itself. They should not be seen as arguments against change. They should be seen as reasons to find new and superior modes of governance: better resourced, more insulated against corruption, nimbler and more flexible, with fresh locks on the 'revolving door' and due attention to the needs of smaller firms.[28] It is easy to list the difficulties associated with good governance, but they don't amount to an argument for doing nothing. They're an argument for doing better.

***

This book kicks off with a brief introduction to republicanism, and how it differs from its great intellectual rival, market individualism. Then the rest of the first half is essentially diagnostic. It makes five main points.

The first is that digital technologies can exert real power. They contain rules that the rest of us have to follow. They condition our behaviour, often without us realising. They frame our perception of the world, determining which information reaches us and in what form. They subject us to near-constant scrutiny. They set the rules of public deliberation, deciding what the rules are, when they are enforced and when they don't apply. These forms of power are still in their infancy. They will grow as technologies become more capable.

Secondly, technology is not neutral, objective or apolitical. Digital systems are soaked through with biases and prejudices.

Third, under the current system, digital technology has been ordered primarily according to the logic of the market economy. This brings benefits, like economic efficiency. But it also has drawbacks. Instead of restraining the might of corporations, the market empowers them. Instead of curtailing the worst instincts of those in the industry, the market encourages them. Instead of

Copyrighted material

empowering citizens, the market strips them of individual and collective agency.

Fourth, there is nothing natural or inevitable about the current system. It is, in large part, the product of a custom-made legal regime that prioritises private ordering over public safeguarding. This regime can be changed.

Finally, the entire system of technological development – both the ways we develop new technologies *and* the ways we have tried to regulate them – have been excessively conditioned by the ideology of market individualism.

The second half of the book is about what we should do differently. It lays out the philosophy of digital republicanism, and then a prospectus for a new system of republican governance. There are chapters on governing data, algorithms, antitrust, social media and much else besides. The book is easiest to follow if read from start to finish, but you can also jump between parts without too much difficulty.

Finally, a personal note.

My generation (I am 32) is the last that can remember a time before the commercial internet. We were too young for 1990s cyber-utopianism, but came of age in the early years of online platforms. Facebook launched when we were teenagers. Social life and social media became inseparable. Smartphones came out in our early twenties, and distinctions that had been clear to our parents – between online and offline, real space and cyberspace – began to melt away. We could see that the world was changing, but that seemingly obvious reality was nowhere to be found in our textbooks. In my first book, *Future Politics* (2018), I argued that we were not yet ready – intellectually, philosophically or morally – for the world we were creating. I believed then, as I do now, that we were living through the first tremors of a great convulsion that would have profound and irreversible consequences for the way we live together.

One of my anxieties in writing *The Digital Republic*, however, is that it seeks to change a system that is very appealing to millions, even billions, of people. 'No old regime is merely oppressive,'

Copyrighted material

writes Michael Walzer; 'it is attractive, too, else the escape from it would be much easier than it is.'[29] Most of us regard technological development with awe and optimism, and that's a good thing. The future is set to be exciting, if nothing else. But I reject the notion, and you should too, that we can only enjoy the wonders of digital technology if we submit to the unaccountable power of those who design and control it.

A different system is possible, and this book is about how to build it: a digital republic in which human and technological flourishing go hand in hand.

Copyrighted material

***

In the Roman Republic, more than two and a half thousand years ago, every citizen was expected to be *sui juris* – his or her own master.[2] But the Romans, like the ancient Greeks, understood that if everyone merely pursued their own interests with no regard for others, there would be anarchy, not liberty.[3] They faced a paradox: how could people live together while still maintaining mastery over themselves? Their answer was the self-governing republic. The term 'republic' comes from the Latin *res publica*, which means the people's thing or affair.[4] It is also sometimes translated as 'commonwealth'.[5] The idea of the republic came to mean a society in which the state was free from the domination of foreign powers, and citizens were free from the domination of other powerful members of society, and the state itself.

The Roman Republic was a highly imperfect system. But one of its strengths was that citizens were expected to participate in collective life, and to cultivate public awareness, empathy and vigilance.[6] It lasted 500 years. After it collapsed, a millennium followed in which republicanism was just a fleeting memory.[7] Europe fell under the dominion of kings, emperors, clergymen and warlords.

A republican renaissance stirred in the eleventh and twelfth centuries. The city-states of northern and central Italy began to replace their lordly rulers with magistrates known as *podestà*, who governed for limited periods through networks of citizen councils.[8] These were not democracies, to be sure, but rulers could be held accountable at the ballot box or in the courthouse.[9] Gradually, Italians came to refer to their system of self-rule as *res publica*.[10]

The spirit of republicanism spread to England in the late sixteenth century, around the time that the great chroniclers of republican Rome – Cicero, Sallust, Livy, Tacitus – were translated into English.[11] England proved fertile terrain for republican ideas. The English believed they were the heirs to an unwritten constitution that endowed them with liberties that no one could

Copyrighted material

take away. What the Romans had called a *liber*, the English called a freeman.[12] But republicanism was mere fantasy in a country that was still ruled by a hereditary monarch.

Matters came to a head in the seventeenth century. The Stuart kings insisted that they had unlimited powers of taxation, conscription and criminal punishment. Republicans, by contrast, argued that the king's powers were constrained by ancient tradition and the common law.[13] In 1628, dissidents bitterly condemned the king's taxes and raged that his subjects 'have of late been imprisoned without any cause showed'.[14] These rumblings turned into rebellion, and eventually the king was captured, prosecuted and beheaded. His days of ruling 'in accordance with his own caprice', as the poet-polemicist John Milton put it, were over.[15]

England had become a republic, at least in name.

What began in England as a political revolt against a particular king grew into an intellectual revolt against the idea of kingship itself.[16] Inspired by the Romans (if not by the rather dictatorial way that England was governed in practice after the regicide), English republicans argued that any ruler unchecked by the law was effectively a tyrant.[17] In *Eikonoklastes* (1649), Milton thundered that the people's wellbeing could never be entrusted to the 'the gift and favour of a single person'.[18]

The English republic did not last long, but its aftershocks rippled through the centuries. In England, the common law remains a bulwark against unaccountable power.[19] In 2019, when the UK government declared that powers derived from the crown entitled it simply to shut Parliament, the Supreme Court disagreed, citing precedent from 1611: 'the King hath no prerogative, but that which the law of the land allows him'.[20]

***

In Northern Europe, republican ideas spread fast in the seventeenth and eighteenth centuries. The Free States of Poland and Switzerland styled themselves as heirs to the Roman tradition. The mighty

Copyrighted material

Dutch republic developed a religious conception of republicanism, inspired by the Jewish Commonwealth of the ancient Hebrews: 'a *respublica* of God's people'.[21]

Then, in 1765, the UK Parliament passed a law requiring its colonial subjects in America to use embossed paper for certain documents, and to pay a tax for the privilege of doing so. The ensuing outrage meant that the Stamp Act was repealed within a year. But Parliament still claimed that it had 'full power and authority to make laws and statutes' to govern its American colonies 'in all cases whatsoever'.[22] This was reckless. Not only were the English saying that Americans would be unrepresented in the body that made their laws, but there would be no checks or balances on Parliament's power.[23]

This did not go down well in America, to put it mildly. The revolutionary backlash, which led to independence, launched the greatest republican experiment yet seen in human affairs. Alexander Hamilton recognised the special place that the US had assumed for itself in history:[24]

> It seems to have been reserved to the people of this country, by their conduct and example, to decide the important question, whether societies of men are really capable or not, of establishing good government from reflection and choice, or whether they are forever destined to depend, for their political constitutions, on accident and force.

Whatever their gripes at the time, the British could hardly accuse the Americans of being unreasonable. After all, the logic of the American revolution was essentially the same as the English revolution a century before: no one should have to live at the mercy of an unaccountable ruler, benevolent or otherwise.[25] It was not acceptable to rely on the goodwill of the powerful. As Joseph Priestley put it in 1769, by 'the same power' as the English could compel Americans 'to pay *one penny*, they may compel them to pay the *last penny* they have'.[26] A few years later, France joined the ranks of the world's republics.

Copyrighted material

***

This potted history would suggest that republicanism is only concerned with the unaccountable power of kings and conquerors. But the republican philosophy actually opposes all forms of unaccountable power. It has been the language of workers resisting oppression since at least the plebeian secessions of the Roman peasants.[27] It has been the language of feminists, like Mary Wollstonecraft, who, in 1792, demanded to know 'Who made man the exclusive judge?'[28] It has been the language of abolitionists like Frederick Douglass, who opposed slavery not because of ill treatment he received, but 'the consideration of my being a slave at all'. The problem was not the cruelty of slave-masters; it was the institution of slavery itself.[29]

Today, the philosophy of republicanism holds that freedom is lost wherever there is a systematic imbalance of power between two parties, leaving one in a position to interfere arbitrarily in the life and affairs of the other. Consider the abused daughter who only escapes a beating when her father is too tired to raise his hand. Or the undocumented worker who must fawn and flatter his boss to keep his job. To the republican mind, the question is not whether the father will be too tired to thrash his daughter, or whether the boss would ever really fire his worker. What matters is that one human being is utterly at the mercy of another. Freedom that depends on the goodwill of the powerful is not real freedom at all.[30] When the Minnesota police officer Derek Chauvin, who had been the subject of seventeen previous misconduct complaints, knelt on the neck of George Floyd until he stopped breathing, he showed the world the face of unaccountable power.[31] It does not matter, from the republican perspective, that most police officers would never behave like Chauvin, or even that Chauvin himself was subsequently sent to prison. He worked within a system that gave him power and let him exercise it without suitable control.

***

Copyrighted material

The republican project has been trundling on for more than 2,000 years. But republican reality has often failed to match the promise of its theory. Like most Western philosophies, at some time or other it has been used as a facade for authoritarian rule, or for the hoarding of power by (usually white male) elites.[32] At the heart of the republican project, however, is not a policy, or even a principle, so much as a frame of mind. Adam Ferguson spoke of the 'indignant spirit' of the republican citizen.[33] In the years to come, we shall have to find new indignance about the unaccountable power of digital technology. And republicanism can be revived and reformed to confront this new form of power. But how is republicanism different from today's governing ideas? That's the subject of the next chapter.

Copyrighted material

The difference can be summed up in this way. The market individualist minds mainly about *interference*, holding that we are free whenever we are not being physically or legally coerced by someone else.[4] The republican shares this concern but also cares about *domination*: we are free only when no one is given the capacity to coerce us without accountability. For the republican, unaccountable power is a problem in itself.

The application of this principle to digital technology is simple enough. We should be concerned about the growing power of digital technology *even when it is being used in ways that don't bother us*. For as long as a technology company or government *could* simply change its mind and use its power to impinge on our rights and liberties, we are unfree. To borrow a metaphor from the English civil war, trusting blindly in the power of others is like putting your head in the mouth of a wolf and hoping it will not bite.[5] That's true even if the wolf is fluffy and cute most of the time.

Republicans and market individualists also disagree about the nature of *democracy*.

Both traditions see self-rule as important. But for the market individualist, the purpose of democracy is fairly limited. Democracy is like any other form of contractual arrangement. It is a vessel for personal advancement *through* community, rather than for the advancement *of the* community as a whole (although that may be a pleasant side effect). When market individualists make arguments that appeal to the interests of others, it is understood that they do so mainly out of self-interest – a desire to reach a bargain – not public duty.

Republicans, however, do not see democracy merely as the aggregation of the private preferences of individuals. Republican democracies expect their members to behave as citizens, not just consumers; to acknowledge the common good as well as private desires; to deliberate in good faith, at peace with the idea that someone might change their minds. This last point is important, and it explains why digital republicans might be wary of *virality* on social media – promoting speech according to how many clicks or

Copyrighted material

likes it gets (chapter thirty-six). Virality seems democratic: what's wrong with directing more attention to the content that the most people enjoy? The republican answer is that the point of politics is not just to tot up people's pre-existing opinions, but to allow them to be formed and shaped through public debate. That's not what virality does. Instead of challenging majority views, it reinforces them. It fosters a thumbs-up/thumbs-down culture in which minority perspectives and inconvenient truths are consigned to algorithmic irrelevance.[6]

***

So we need to think differently about *freedom* and *democracy*. But we can go further. We can reimagine what it means to speak of *society*, *politics* and *law*. Once we do that, the path ahead becomes clearer.

Perhaps unsurprisingly, market individualists see the basic unit of social organisation as the individual. They emphasise the fundamental separateness of people: their cognitive autonomy, their various self-interests. On this view, there is no such thing as society apart from the individuals who make it up. Societies are the products of social contracts. Each one is a 'cooperative venture for the pursuit of individual advantage' or a 'scheme of mutual cooperation' for the pursuit of pre-formed desires.[7] This way of looking at the world originates in the seventeenth century.

The republican vision is much older. Like market individualists, republicans believe in the integrity and autonomy of the individual. But republicans see our natural state as being in the company of other people. We are 'creatures of community', not solitary atoms drifting through the ether.[8] As Hannah Arendt observes, for the Romans, the word for 'to live' meant the same as 'to be among men'.[9]

What may seem like a subtle disagreement over the meaning of *society* leads to a more fundamental one over the nature of *politics*. In the market individualist tradition, the default response to a social problem is to expect that the market or civil society will take care of it. That is to say: market individualists trust that economies of

Copyrighted material

people acting in their personal self-interest will generally work their way towards an acceptable equilibrium.

The republican tradition is more sceptical about the idea that the uncoordinated actions of disparate people will solve social problems. There is a reason why we are not left to decide for ourselves which side of the road to drive on, or what rate of tax to pay. Some social schemes require coordination and cooperation, even coercion, not just competition. Market individualists and republicans both believe in individual freedom. The difference is that republicans believe that the preservation of individual freedom often requires us to act *together*.

Indeed, it is not just political action but the very *concept* of politics itself that divides market individualists and republicans. The market individualist inclination is to treat what happens in the economy as something 'private', separate from the 'public' sphere of politics. That's why for the market individualist, there is little injustice in the asymmetries in power that arise in the rough and tumble of the economy. Because (on this worldview) the market is not really part of politics at all.[10]

Republicanism has no time for this way of thinking. A conception of politics that is blind to every power imbalance other than the one between the government and the people is obviously incomplete. It leaves out the politics between sexes and genders, between nations, races and religions, between old and young, rich and poor – really all of the dynamics that make politics interesting and important. And, of course, it entirely omits one of the defining political relationships of our time: between those who design and control digital technologies and those who must live under the power of those technologies.

The final difference between the two traditions relates to the concept of *law*. This is important, because it concerns the proper role of the state in governing the power of digital technology.

The market individualist conception of law goes something like this: people are born free but made subject to legal restrictions on their activity. Although some laws are necessary for the preservation of safety and security, each one represents a restriction on liberty.

Copyrighted material

A justifiable restriction, perhaps, but a restriction nonetheless. Jeremy Bentham put it bluntly in the nineteenth century: 'All coercive laws,' he wrote, are 'abrogative of liberty.'[11] This perspective has some quite pungent consequences. If law and freedom are really enemies, then more law necessarily means less freedom. It is a short hop to the idea that freedom lies in the absence of government, or governance, altogether.

The republican position is more nuanced. It sees an underregulated society as one in which the strong can prey on the weak at their pleasure; where power inevitably accrues to the richest, largest and most violent. The rest are left with whatever dregs remain after the mighty have taken their fill. For the republican, law should be seen as a means of reining in the over-powerful, thereby carving out space for everyone to flourish. James Madison put it like this: 'liberty may be endangered by the abuses of liberty, as well as by the abuses of power.'[12] In the republican tradition, therefore, law and freedom are not opposites. Quite the reverse: law often makes freedom possible.[13]

At the same time, however, republicans do not believe that more law is always better. On the contrary, the tradition is obsessed with restraining the power of government. Like any other concentration of power, government can only be justified so long as it serves to reduce domination in society. If it goes further than that, it ceases to be justifiable. 'The best rule as to your laws in general,' wrote the seventeenth-century republican James Harrington, 'is that they be few.'[14]

***

Republicans and market individualists do not disagree about everything. But there is no escaping the fact that these traditions, both of the Western canon, take very different views of the world. When it comes to freedom and democracy, republicans imagine a different future from the one we have now. And when it comes to society, politics and law, that difference only grows.

Copyrighted material

If you see yourself as more of a market individualist, you are certainly in good company. As we will see, for most of modern history, market individualism has been the default setting for Anglosphere (and much of Western) politics, while republicanism has been little more than a footnote.[15] Indeed, many of our 'solutions' to the challenges of digital technology come from the same intellectual paradigm that created the problems in the first place: more marketisation, more commodification, more individualised decision-making, more competition.[16]

This book argues that it is time to try a different way of thinking and a new way of governing, before the chance disappears forever.

We will unpack the idea of digital republicanism later in the book. But our first task is to find a diagnosis of the central problem. That is the focus of the next part: digital power. Where it comes from, how it is growing, and why it matters.

Copyrighted material

Copyrighted material

THREE

Autocrats of Information

Electric scooters are the latest vogue in urban transportation. They wait in clusters on the pavement, ready for hire by anyone with a smartphone and a credit card. Scooters are faster than walking, easier than cycling and nimbler than cars. They turn the cityscape into a playground. Riding them is a carefree experience – but it is more controlled than it might seem. Every journey is tracked from start to finish. No matter how hard the throttle is pressed, the scooters will not go above a particular speed. They refuse to leave designated urban areas. And there is no haggling over the fare: an app deducts a precise sum depending on the length of the journey.

None of this is inherently objectionable. But scooters do offer a helpful example of the paradox of digital technologies: they offer freedom, but only in exchange for some surrender of control.[1] This is not a paradox that will ever be fully resolved. The question will always be whether the balance between freedom and control is struck in the right place.

Copyrighted material

***

Computer code has a formidable ability to control human activity – silently, automatically, precisely and without tolerating any objection.[2] And it is used to enforce a growing number of society's rules. In the past, borrowing a book meant returning it to the library before the expiry of the agreed period. Late returns would be met with a small fine and a disapproving glare from the librarian. Now, when a customer borrows a book from a lending app, late return is not an option. When the term expires, the book simply disappears from the reader's device. In the same way, a movie rented on Amazon Prime evaporates when time is up. The rules are self-enforcing.

Code is now present in almost all the occupations, transactions and interactions that make up a meaningful life. It's unavoidable. And the empire of code is no longer confined to the separate dimension of 'cyberspace'. We cannot escape by shutting a laptop or logging off. We are physically surrounded by technology, encountering hundreds or thousands of digital objects every day. As Bruce Schneier says, it used to be that things contained computers, but now 'they *are* computers with things attached to them.'[3] Soon, tens of billions of once-dumb artefacts will be connected to the internet, equipped with sensors and endowed with processing power, enabling them to interact with us and each other.[4] All these technologies will contain rules, and we will have to follow them.

Of course, some of the hype about the 'internet of things' is indeed just hype. Not everything will be digitised. My guess, for instance, is that consumers will not want 'smart toilets' that can identify them by the unique shape of their backsides (just one product currently said to be under development).[5] But even on a conservative view, the future will not permit much meaningful escape from digital technology, not if you want to live a full and rounded life. Tech's empire recognises no borders or barriers. It is a ubiquitous feature of twenty-first-century life, spreading outwards and surrounding us. Algorithms are

Copyrighted material

increasingly used to determine our access to the necessities of civilised existence: work, credit, insurance, housing, welfare and much else besides. As a social force, code will eventually rival the invisible hand of the market and the great clunking fist of the state.

The border between online and offline is fading, and with it, the distinction between tech and non-tech corporations. Is a manufacturer of 'smart' medical devices a 'tech' company? Is Airbnb a landlord? Are Ford and Google in the same category because they both develop self-driving cars? The Chinese rideshare platform Didi Chuxing moved from transport into personal finance by gathering data about its passengers – where they live, who they live with, where they work, where they eat – and using it to make predictions about their financial status and proclivities. It now offers loans and insurance without customers needing to complete a single questionnaire.[6] Digital technology lets businesses shift between social functions, allowing power in one sphere of life to be carried over into others.

The nineteenth-century computer pioneer Ada Lovelace believed that a coder was an 'autocrat of information', marching at the head of 'the most harmoniously disciplined troops'.[7] Her analogy was apt. Code does not care if humans agree with it or not. It does not need their consent or compliance. It is rarely the product of a democratic process or legislative debate. It doesn't derive from any kind of social contract. It is almost impossible for ordinary people – the billions of us who are its passive subjects – to alter or appeal. Code makes no claim to legitimacy, only efficacy. Increasingly it is just a fact of life: an invisible border which marks, with hard edges, the limits of what we can and cannot do.

***

How is code's power used? Mostly for commercial purposes. Think of the workplace, for example. Businesses use digital tools to manage their workforce in ways that would have been hard to

Copyrighted material

imagine a couple of decades ago. Amazon's systems chide workers who fail to pack their boxes quickly enough, and terminate those who underperform.[8] Uber's software deactivates the accounts of drivers whose ratings fall below a required level.[9] Businesses target new recruits with online advertisements then screen them using systems that scan their CVs for keywords. They 'interview' candidates with software that simulates basic text conversations[10] and programs that draw inferences from diction, tone, eyebrow activity, lip movements and chin gestures.[11] (Whether this technology works is another question. What does an unacceptable chin gesture look like? What is the appropriate level of eyebrow activity?) In some businesses, 'people analytics' could eventually replace CVs and interviews altogether. Employers will be able to draw inferences about candidates based on their habits and leisure patterns, their compulsions and addictions, their friends and social circles – all revealed by the data.[12]

Code's power is not limited, however, to business. Increasingly it is wielded in ways that are overtly political, and not just by governments. During the Covid-19 crisis, Facebook summarily took down event pages that were being used to organise anti-quarantine protests, effectively quashing the protests themselves.[13] No law required Facebook to take this step. No law prevented it from doing so either. The company identified what it perceived as a social harm and took public policy into its own hands. Some criticised Facebook for this decision, but if it had left those groups alone, it would have been criticised for that too. Decisions of this kind used to be the province of public officials. In the future, more and more will be made by technology companies. And as the next chapter shows, these companies know more about us than any government of the past.

Copyrighted material

don't have to force us to place surveillance devices in our homes. And they don't have to see us in order to watch us. We expose our lives to scrutiny whenever we interact with a phone, computer or 'smart' household device; every time we visit a website or use an app. And personal data usually finds its way to those who want it most. Thus, when police in the US wanted information about Black Lives Matter activists, they didn't need to spy on them with cameras in bars. They bought what they needed in the data market. Facebook had a trove of data about users interested in Black Lives Matter, which it sold to third-party brokers, who sold it on to law-enforcement authorities.[10] For juicy data that cannot be found on the open market, Facebook has a special portal for police to request photographs, data about advertisement clicks, applications used, friends (including deleted ones), the content of searches, deleted content and likes and pokes. Facebook provides data 88 per cent of the times it is asked.[11]

Even in the physically 'private' space of home, there is already little escape from data-gathering devices. If you used Zoom to keep in touch with your family during the Covid-19 crisis, Zoom will have sent Facebook details of where you live, when you opened the app, the model of your laptop or smartphone, and a 'unique advertiser identifier' allowing companies to target you with advertisements.[12] Zoom is not even owned by Facebook. It merely used some of its software.[13] A commercially available dataset recently revealed more than thirty devices that were using hookup or dating apps within secured areas of the Vatican city – that is, areas generally accessible only to senior members of the Catholic Church.[14] That's the kind of secret that would probably have stayed hidden in the past.

The future is not Big Brother, in the sense of one government monolith watching us all at once. It is, instead, a 'big brotherhood' of hidden, unblinking eyes, some belonging to the state but countless others belonging to private parties who watch us while remaining unseen.[15]

***

Copyrighted material

Another anxiety inherited from the twentieth century is the sense that anonymity is no longer possible; that even if we try to hide, powerful others will always know exactly who we are and where to find us. In recent years, this fear has led to concern about the spread of facial recognition systems.[16] In fact, our faces are just one way to identify and locate us. The unique identifiers in our smartphones and payment devices telegraph our presence wherever we go. Using location data from the phones of millions of people, it took minutes for journalists to track the whereabouts of the President of the United States.[17] There are systems that can monitor people's heartbeats and read their irises from afar.[18] Others use WiFi technology to identify individuals through walls. With the right tech, a person's gait can identify them as readily as a fingerprint.[19] In the future it may be possible to 'Google spacetime' to find where any of us were at a specific time and date.[20]

Taking a longer view, anxieties about being *identified* will eventually be superseded by concerns about being *analysed*. We are not as mysterious as we like to think, even if the capability of computers is sometimes overhyped. Systems are being developed to interpret our feelings and moods using the tiniest of physical cues.[21] They are said to be able to take in the sentiments of crowds in a heartbeat.[22] They can tell if we are bored or distracted from the tiny movements of our faces.[23] They can see if we're sad from the way we walk.[24] They can detect cognitive impairments from the way we poke our smartphones.[25] They can predict our mental state from the content of our social media posts.[26] Famously, Facebook 'likes' can be used to predict a person's political preferences 85 per cent of the time, their sexuality 88 per cent of the time and their race 95 per cent of the time.[27]

Using data gathered from a thousand sources, today's systems scrutinise us more closely and completely than any government agent ever could. And as we will see in the next chapter, this allows them not only to interpret our cognitive states but influence them too. Tomorrow's technologies will be even more powerful.

***

Copyrighted material

Not everyone is aware of the extent to which they are scrutinised, and it might be thought that educating people would improve their prospects for freedom. Digital literacy is certainly important, and it pays to understand the systems we use and the companies that produce them. Paradoxically, however, hyper-awareness can also have a crumpling effect on liberty. The more we are conscious of others watching us, the more we mind our own behaviour. Long before Michel Foucault wrote *Discipline and Punish* (1975), the republicans of revolutionary England argued that merely being *aware* of the power of others was enough to make people change their behaviour.[28]

Thus, if young people knew that future employers would be likely to examine their social media activity, they might avoid doing anything that could lead to an embarrassing photograph being posted on the internet. If loan-seekers were told that becoming 'friends' with a bankrupt person on Facebook might lower their *own* credit score, they would pause before admitting them to their network. If consumers knew that their conversations with digital personal assistants might be listened to by human beings, they would hesitate before asking an embarrassing question about the rash on their groin.[29] If it was widely known that substance abuse websites passed on the identities of their visitors to third parties, people might be reluctant to reach out for advice.[30]

Many employers instinctively understand the disciplinary effect of being watched. Staff told that their 'productivity score' will go down if they go to the bathroom too often might be inclined to hold it in, no matter the discomfort.[31] Couriers told that their deliveries are monitored against benchmarks – 'time to accept orders', 'travel time to restaurant', 'time at customer' – are likely to pedal a little faster.[32] Home-workers who know that their 'Hubstaff' software is tracking their mouse movements, keystrokes and web activity are unlikely to shirk or procrastinate.[33] Worse, those who know the 'Sneek' platform might photograph them every few minutes through their webcam will be understandably reluctant to nap on the job.[34] It recently emerged that Amazon received regular reports

Copyrighted material