

## Praise for *The Age of Surveillance Capitalism*

“The defining challenge for the future of the market economy is the concentration of data, knowledge, and surveillance power. Not just our privacy but our individuality is at stake, and this very readable and thought-provoking book alerts us to these existential dangers. Highly recommended.”

—**Daron Acemoglu**, coauthor of *Why Nations Fail*

“Zuboff’s expansive, erudite, deeply researched exploration of digital futures elucidates the norms and hidden terminal goals of information-intensive industries. Zuboff’s book is the information industry’s *Silent Spring*.”

—**Chris Hoofnagle**, University of California, Berkeley

“A panoramic exploration of one of the most urgent issues of our times, Zuboff reinterprets contemporary capitalism through the prism of the digital revolution, producing a book of immense ambition and erudition. Zuboff is one of our most prescient and profound thinkers on the rise of the digital. In an age of inane Twitter soundbites and narcissistic Facebook posts, Zuboff’s serious scholarship is great cause for celebration.”

—**Andrew Keen**, author of *How to Fix the Future*

“From the very first page I was consumed with an overwhelming imperative: everyone needs to read this book as an act of digital self-defense. With tremendous lucidity and moral courage, Zuboff demonstrates not only how our minds are being mined for data but also how they are being rapidly and radically changed in the process. The hour is late and much has been lost already—but as we learn in these indispensable pages, there is still hope for emancipation.”

—**Naomi Klein**, author of *This Changes Everything* and *No Logo*, and **Gloria Steinem Chair in Media, Culture, and Feminist Studies at Rutgers University**

“Zuboff is a strikingly original voice, simultaneously bold and wise, eloquent and passionate, learned and accessible. Read this book to understand the inner workings of today’s digital capitalism, its threats to twenty-first-century society, and the reforms we must make for a better tomorrow.”

—**Frank Pasquale**, University of Maryland Carey School of Law

“I will make a guarantee: Assuming we survive to tell the tale, *The Age of Surveillance Capitalism* has a high probability of joining the likes of Adam Smith’s *The Wealth of Nations* and Max Weber’s *Economy and Society* as defining social-economics texts of modern times. It is not a ‘quick read’; it is to be savored and re-read and discussed with colleagues and friends. No zippy one-liners from me, except to almost literally beg you to read/ingest this book.”

—**Tom Peters**, coauthor of *In Search of Excellence*

“*The Age of Surveillance Capitalism* is brilliant and essential. Shoshana Zuboff reveals capitalism’s most dangerous frontier with stunning clarity: The new economic order of surveillance capitalism founded on extreme inequalities of knowledge and power. Her sweeping analysis demonstrates the unprecedented challenges to human autonomy, social solidarity, and democracy perpetrated by this rogue capitalism. Zuboff’s book finally empowers us to understand and fight these threats effectively—a masterpiece of rare conceptual daring, beautifully written and deeply urgent.”

—**Robert B. Reich, author of *The Common Good and Saving Capitalism: For the Many, Not the Few***

“My mind is blown on every page by the depth of Shoshana’s research, the breadth of her knowledge, the rigor of her intellect, and finally by the power of her arguments. I’m not sure we can end the age of surveillance capitalism without her help, and that’s why I believe this is the most important book of our time.”

—**Doc Searls, author of *The Intention Economy*, and editor-in-chief of *Linux Journal***

“Shoshana Zuboff has produced the most provocative compelling moral framework thus far for understanding the new realities of our digital environment and its anti-democratic threats. From now on, all serious writings on the internet and society will have to take into account *The Age of Surveillance Capitalism*.”

—**Joseph Turow, Robert Lewis Shayon Professor of Communication, Annenberg School, University of Pennsylvania**

“In the future, if people still read books, they will view this as the classic study of how everything changed. *The Age of Surveillance Capitalism* is a masterpiece that stunningly reveals the essence of twenty-first-century society, and offers a dire warning about technology gone awry that we ignore at our peril. Shoshana Zuboff has somehow escaped from the fishbowl in which we all now live and introduced to us the concept of water. A work of penetrating intellect, this is also a deeply human book about what is becoming, as it relentlessly demonstrates, a dangerously inhuman time.”

—**Kevin Werbach, The Wharton School, University of Pennsylvania, and author of *The Blockchain and the New Architecture of Trust***

THE AGE OF  
SURVEILLANCE  
CAPITALISM

*The Fight for the Future at  
the New Frontier of Power*

SHOSHANA ZUBOFF

P

PROFILE BOOKS

First published in Great Britain in 2019 by  
Profile Books Ltd  
3 Holford Yard  
Bevin Way  
London  
WC1X 9HD

[www.profilebooks.com](http://www.profilebooks.com)

First published in the United States of America in 2019 by  
Public Affairs, Hachette Book Group

Copyright © Shoshana Zuboff, 2019

Sonnets from China: Copyright © 1939 by W. H. Auden. Reprinted by permission of Curtis Brown, Ltd. All rights reserved.

We Too Had Known Golden Hours. Copyright © 1951 by W. H. Auden. Reprinted by permission of Curtis Brown, Ltd. All rights reserved.

Excerpt(s) from *Social Physics: How Good Ideas Spread—The Lessons from a New Science* by Alex Pentland, © 2014 by Alex Pentland. Used by permission of Penguin Press, an imprint of Penguin Publishing Group, a division of Penguin Random House LLC. All rights reserved.

10 9 8 7 6 5 4 3 2 1

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

The moral right of the author has been asserted.

All rights reserved. Without limiting the rights under copyright reserved above, no part of this publication may be reproduced, stored or introduced into a retrieval system, or transmitted, in any form or by any means (electronic, mechanical, photocopying, recording or otherwise), without the prior written permission of both the copyright owner and the publisher of this book.

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

ISBN 978 1 78125 684 8  
eISBN 978 1 78283 274 4



# THE DEFINITION

Sur-veil-lance Cap-i-tal-ism, n.

1. A new economic order that claims human experience as free raw material for hidden commercial practices of extraction, prediction, and sales; 2. A parasitic economic logic in which the production of goods and services is subordinated to a new global architecture of behavioral modification; 3. A rogue mutation of capitalism marked by concentrations of wealth, knowledge, and power unprecedented in human history; 4. The foundational framework of a surveillance economy; 5. As significant a threat to human nature in the twenty-first century as industrial capitalism was to the natural world in the nineteenth and twentieth; 6. The origin of a new instrumentarian power that asserts dominance over society and presents startling challenges to market democracy; 7. A movement that aims to impose a new collective order based on total certainty; 8. An expropriation of critical human rights that is best understood as a coup from above: an overthrow of the people's sovereignty.

# CONTENTS

## INTRODUCTION

- 1 Home or Exile in the Digital Future 3

## PART I

### THE FOUNDATIONS OF SURVEILLANCE CAPITALISM

- 2 August 9, 2011: Setting the Stage for Surveillance  
Capitalism 27
- 3 The Discovery of Behavioral Surplus 63
- 4 The Moat Around the Castle 98
- 5 The Elaboration of Surveillance Capitalism:  
Kidnap, Corner, Compete 128
- 6 Hijacked: The Division of Learning in Society 176

## PART II

### THE ADVANCE OF SURVEILLANCE CAPITALISM

- 7 The Reality Business 199
- 8 Rendition: From Experience to Data 233
- 9 Rendition from the Depths 255
- 10 Make Them Dance 293
- 11 The Right to the Future Tense 329

## PART III

## INSTRUMENTARIAN POWER FOR A THIRD MODERNITY

12	Two Species of Power	351
13	Big Other and the Rise of Instrumentarian Power	376
14	A Utopia of Certainty	398
15	The Instrumentarian Collective	416
16	Of Life in the Hive	445
17	The Right to Sanctuary	475

## CONCLUSION

18	A Coup from Above	495
----	-------------------	-----

*Detailed Table of Contents* 526

*Acknowledgments* 532

*Notes* 537

*Index* 665

## CHAPTER ONE

# HOME OR EXILE IN THE DIGITAL FUTURE

*I saw him crying, shedding floods of tears upon  
Calypso's island, in her chambers.  
She traps him there; he cannot go back home.*

—HOMER, *THE ODYSSEY*

### *I. The Oldest Questions*

“Are we all going to be working for a smart machine, or will we have smart people around the machine?” The question was posed to me in 1981 by a young paper mill manager sometime between the fried catfish and the pecan pie on my first night in the small southern town that was home to his mammoth plant and would become my home periodically for the next six years. On that rainy night his words flooded my brain, drowning out the quickening *tap tap tap* of raindrops on the awning above our table. I recognized the oldest political questions: Home or exile? Lord or subject? Master or slave? These are eternal themes of knowledge, authority, and power that can never be settled for all time. There is no end of history; each generation must assert its will and imagination as new threats require us to retry the case in every age.

Perhaps because there was no one else to ask, the plant manager's voice was weighted with urgency and frustration: “What's it gonna be? Which way are we supposed to go? I must know now. There is no time to spare.” I wanted the answers, too, and so I began the project that thirty years ago became my first book, *In the Age of the Smart Machine: The Future of Work*



*and Power*. That work turned out to be the opening chapter in what became a lifelong quest to answer the question “Can the digital future be our home?”

It has been many years since that warm southern evening, but the oldest questions have come roaring back with a vengeance. The digital realm is overtaking and redefining everything familiar even before we have had a chance to ponder and decide. We celebrate the networked world for the many ways in which it enriches our capabilities and prospects, but it has birthed whole new territories of anxiety, danger, and violence as the sense of a predictable future slips away.

When we ask the oldest questions now, billions of people from every social strata, generation, and society must answer. Information and communications technologies are more widespread than electricity, reaching three billion of the world’s seven billion people.<sup>1</sup> The entangled dilemmas of knowledge, authority, and power are no longer confined to workplaces as they were in the 1980s. Now their roots run deep through the necessities of daily life, mediating nearly every form of social participation.<sup>2</sup>

Just a moment ago, it still seemed reasonable to focus our concerns on the challenges of an information workplace or an information society. Now the oldest questions must be addressed to the widest possible frame, which is best defined as “civilization” or, more specifically, *information civilization*. Will this emerging civilization be a place that we can call home?

All creatures orient to home. It is the point of origin from which every species sets its bearings. Without our bearings, there is no way to navigate unknown territory; without our bearings, we are lost. I am reminded of this each spring when the same pair of loons returns from their distant travels to the cove below our window. Their haunting cries of homecoming, renewal, connection, and safeguard lull us to sleep at night, knowing that we too are in our place. Green turtles hatch and go down to the sea, where they travel many thousands of miles, sometimes for ten years or twenty. When ready to lay their eggs, they retrace their journey back to the very patch of beach where they were born. Some birds annually fly for thousands of miles, losing as much as half their body weight, in order to mate in their birthplace. Birds, bees, butterflies . . . nests, holes, trees, lakes, hives, hills, shores, and hollows . . . nearly every creature shares some version of this deep attachment to a place in which life has been known to flourish, the kind of place we call *home*.

It is in the nature of human attachment that every journey and expulsion sets into motion the search for home. That *nostos*, finding home, is among our most profound needs is evident by the price we are willing to pay for it. There is a universally shared ache to return to the place we left behind or to found a new home in which our hopes for the future can nest and grow. We still recount the travails of Odysseus and recall what human beings will endure for the sake of reaching our own shores and entering our own gates.

Because our brains are larger than those of birds and sea turtles, we know that it is not always possible, or even desirable, to return to the same patch of earth. Home need not always correspond to a single dwelling or place. We can choose its form and location but not its meaning. Home is where we know and where we are known, where we love and are beloved. Home is mastery, voice, relationship, and sanctuary: part freedom, part flourishing... part refuge, part prospect.

The sense of home slipping away provokes an unbearable yearning. The Portuguese have a name for this feeling: *saudade*, a word said to capture the homesickness and longing of separation from the homeland among emigrants across the centuries. Now the disruptions of the twenty-first century have turned these exquisite anxieties and longings of dislocation into a universal story that engulfs each one of us.<sup>3</sup>

## II. Requiem for a Home

In 2000 a group of computer scientists and engineers at Georgia Tech collaborated on a project called the “Aware Home.”<sup>4</sup> It was meant to be a “living laboratory” for the study of “ubiquitous computing.” They imagined a “human-home symbiosis” in which many animate and inanimate processes would be captured by an elaborate network of “context aware sensors” embedded in the house and by wearable computers worn by the home’s occupants. The design called for an “automated wireless collaboration” between the platform that hosted personal information from the occupants’ wearables and a second one that hosted the environmental information from the sensors.

There were three working assumptions: first, the scientists and engineers understood that the new data systems would produce an entirely new knowledge domain. Second, it was assumed that the rights to that new knowledge and the power to use it to improve one's life would belong exclusively to the people who live in the house. Third, the team assumed that for all of its digital wizardry, the Aware Home would take its place as a modern incarnation of the ancient conventions that understand "home" as the private sanctuary of those who dwell within its walls.

All of this was expressed in the engineering plan. It emphasized trust, simplicity, the sovereignty of the individual, and the inviolability of the home as a private domain. The Aware Home information system was imagined as a simple "closed loop" with only two nodes and controlled entirely by the home's occupants. Because the house would be "constantly monitoring the occupants' whereabouts and activities... even tracing its inhabitants' medical conditions," the team concluded, "there is a clear need to give the occupants knowledge and control of the distribution of this information." All the information was to be stored on the occupants' wearable computers "to insure the privacy of an individual's information."

By 2018, the global "smart-home" market was valued at \$36 billion and expected to reach \$151 billion by 2023.<sup>5</sup> The numbers betray an earthquake beneath their surface. Consider just one smart-home device: the Nest thermostat, which was made by a company that was owned by Alphabet, the Google holding company, and then merged with Google in 2018.<sup>6</sup> The Nest thermostat does many things imagined in the Aware Home. It collects data about its uses and environment. It uses motion sensors and computation to "learn" the behaviors of a home's inhabitants. Nest's apps can gather data from other connected products such as cars, ovens, fitness trackers, and beds.<sup>7</sup> Such systems can, for example, trigger lights if an anomalous motion is detected, signal video and audio recording, and even send notifications to homeowners or others. As a result of the merger with Google, the thermostat, like other Nest products, will be built with Google's artificial intelligence capabilities, including its personal digital "assistant."<sup>8</sup> Like the Aware Home, the thermostat and its brethren devices create immense new stores of knowledge and therefore new power—but for whom?

Wi-Fi-enabled and networked, the thermostat's intricate, personalized data stores are uploaded to Google's servers. Each thermostat comes with a "privacy policy," a "terms-of-service agreement," and an "end-user licensing agreement." These reveal oppressive privacy and security consequences in which sensitive household and personal information are shared with other smart devices, unnamed personnel, and third parties for the purposes of predictive analyses and sales to other unspecified parties. Nest takes little responsibility for the security of the information it collects and none for how the other companies in its ecosystem will put those data to use.<sup>9</sup> A detailed analysis of Nest's policies by two University of London scholars concluded that were one to enter into the Nest ecosystem of connected devices and apps, each with their own equally burdensome and audacious terms, the purchase of a single home thermostat would entail the need to review nearly a thousand so-called contracts.<sup>10</sup>

Should the customer refuse to agree to Nest's stipulations, the terms of service indicate that the functionality and security of the thermostat will be deeply compromised, no longer supported by the necessary updates meant to ensure its reliability and safety. The consequences can range from frozen pipes to failed smoke alarms to an easily hacked internal home system.<sup>11</sup>

By 2018, the assumptions of the Aware Home were gone with the wind. Where did they go? What was that wind? The Aware Home, like many other visionary projects, imagined a digital future that empowers individuals to lead more-effective lives. What is most critical is that in the year 2000 this vision naturally assumed an unwavering commitment to the privacy of individual experience. Should an individual choose to render her experience digitally, then she would exercise exclusive rights to the knowledge garnered from such data, as well as exclusive rights to decide how such knowledge might be put to use. Today these rights to privacy, knowledge, and application have been usurped by a bold market venture powered by unilateral claims to others' experience and the knowledge that flows from it. What does this sea change mean for us, for our children, for our democracies, and for the very possibility of a human future in a digital world? This book aims to answer these questions. It is about the darkening of the digital dream and its rapid mutation into a voracious and utterly novel commercial project that I call *surveillance capitalism*.

### *III. What Is Surveillance Capitalism?*

Surveillance capitalism unilaterally claims human experience as free raw material for translation into behavioral data. Although some of these data are applied to product or service improvement, the rest are declared as a proprietary *behavioral surplus*, fed into advanced manufacturing processes known as “machine intelligence,” and fabricated into *prediction products* that anticipate what you will do now, soon, and later. Finally, these prediction products are traded in a new kind of marketplace for behavioral predictions that I call *behavioral futures markets*. Surveillance capitalists have grown immensely wealthy from these trading operations, for many companies are eager to lay bets on our future behavior.

As we shall see in the coming chapters, the competitive dynamics of these new markets drive surveillance capitalists to acquire ever-more-predictive sources of behavioral surplus: our voices, personalities, and emotions. Eventually, surveillance capitalists discovered that the most-predictive behavioral data come from intervening in the state of play in order to nudge, coax, tune, and herd behavior toward profitable outcomes. Competitive pressures produced this shift, in which automated machine processes not only *know* our behavior but also *shape* our behavior at scale. With this reorientation from knowledge to power, it is no longer enough to automate information flows *about us*; the goal now is to *automate us*. In this phase of surveillance capitalism’s evolution, the means of production are subordinated to an increasingly complex and comprehensive “means of behavioral modification.” In this way, surveillance capitalism births a new species of power that I call *instrumentarianism*. Instrumentarian power knows and shapes human behavior toward others’ ends. Instead of armaments and armies, it works its will through the automated medium of an increasingly ubiquitous computational architecture of “smart” networked devices, things, and spaces.

In the coming chapters we will follow the growth and dissemination of these operations and the instrumentarian power that sustains them. Indeed, it has become difficult to escape this bold market project, whose tentacles reach from the gentle herding of innocent Pokémon Go players to eat, drink, and purchase in the restaurants, bars, fast-food joints, and shops that pay to

play in its behavioral futures markets to the ruthless expropriation of surplus from Facebook profiles for the purposes of shaping individual behavior, whether it's buying pimple cream at 5:45 P.M. on Friday, clicking "yes" on an offer of new running shoes as the endorphins race through your brain after your long Sunday morning run, or voting next week. Just as industrial capitalism was driven to the continuous intensification of the means of production, so surveillance capitalists and their market players are now locked into the continuous intensification of the means of behavioral modification and the gathering might of instrumentarian power.

Surveillance capitalism runs contrary to the early digital dream, consigning the Aware Home to ancient history. Instead, it strips away the illusion that the networked form has some kind of indigenous moral content, that being "connected" is somehow intrinsically pro-social, innately inclusive, or naturally tending toward the democratization of knowledge. Digital connection is now a means to others' commercial ends. At its core, surveillance capitalism is parasitic and self-referential. It revives Karl Marx's old image of capitalism as a vampire that feeds on labor, but with an unexpected turn. Instead of labor, surveillance capitalism feeds on every aspect of every human's experience.

Google invented and perfected surveillance capitalism in much the same way that a century ago General Motors invented and perfected managerial capitalism. Google was the pioneer of surveillance capitalism in thought and practice, the deep pocket for research and development, and the trailblazer in experimentation and implementation, but it is no longer the only actor on this path. Surveillance capitalism quickly spread to Facebook and later to Microsoft. Evidence suggests that Amazon has veered in this direction, and it is a constant challenge to Apple, both as an external threat and as a source of internal debate and conflict.

As the pioneer of surveillance capitalism, Google launched an unprecedented market operation into the unmapped spaces of the internet, where it faced few impediments from law or competitors, like an invasive species in a landscape free of natural predators. Its leaders drove the systemic coherence of their businesses at a breakneck pace that neither public institutions nor individuals could follow. Google also benefited from historical events when a national security apparatus galvanized by the attacks of 9/11 was inclined to

nurture, mimic, shelter, and appropriate surveillance capitalism's emergent capabilities for the sake of total knowledge and its promise of certainty.

Surveillance capitalists quickly realized that they could do anything they wanted, and they did. They dressed in the fashions of advocacy and emancipation, appealing to and exploiting contemporary anxieties, while the real action was hidden offstage. Theirs was an invisibility cloak woven in equal measure to the rhetoric of the empowering web, the ability to move swiftly, the confidence of vast revenue streams, and the wild, undefended nature of the territory they would conquer and claim. They were protected by the inherent illegibility of the automated processes that they rule, the ignorance that these processes breed, and the sense of inevitability that they foster.

Surveillance capitalism is no longer confined to the competitive dramas of the large internet companies, where behavioral futures markets were first aimed at online advertising. Its mechanisms and economic imperatives have become the default model for most internet-based businesses. Eventually, competitive pressure drove expansion into the offline world, where the same foundational mechanisms that expropriate your online browsing, likes, and clicks are trained on your run in the park, breakfast conversation, or hunt for a parking space. Today's prediction products are traded in behavioral futures markets that extend beyond targeted online ads to many other sectors, including insurance, retail, finance, and an ever-widening range of goods and services companies determined to participate in these new and profitable markets. Whether it's a "smart" home device, what the insurance companies call "behavioral underwriting," or any one of thousands of other transactions, we now pay for our own domination.

Surveillance capitalism's products and services are not the objects of a value exchange. They do not establish constructive producer-consumer reciprocities. Instead, they are the "hooks" that lure users into their extractive operations in which our personal experiences are scraped and packaged as the means to others' ends. We are not surveillance capitalism's "customers." Although the saying tells us "If it's free, then you are the product," that is also incorrect. We are the sources of surveillance capitalism's crucial surplus: the objects of a technologically advanced and increasingly inescapable raw-material-extraction operation. Surveillance capitalism's actual customers are the enterprises that trade in its markets for future behavior.

This logic turns ordinary life into the daily renewal of a twenty-first-century Faustian compact. “Faustian” because it is nearly impossible to tear ourselves away, despite the fact that what we must give in return will destroy life as we have known it. Consider that the internet has become essential for social participation, that the internet is now saturated with commerce, and that commerce is now subordinated to surveillance capitalism. Our dependency is at the heart of the commercial surveillance project, in which our felt needs for effective life vie against the inclination to resist its bold incursions. This conflict produces a psychic numbing that inures us to the realities of being tracked, parsed, mined, and modified. It disposes us to rationalize the situation in resigned cynicism, create excuses that operate like defense mechanisms (“I have nothing to hide”), or find other ways to stick our heads in the sand, choosing ignorance out of frustration and helplessness.<sup>12</sup> In this way, surveillance capitalism imposes a fundamentally illegitimate choice that twenty-first-century individuals should not have to make, and its normalization leaves us singing in our chains.<sup>13</sup>

Surveillance capitalism operates through unprecedented asymmetries in knowledge and the power that accrues to knowledge. Surveillance capitalists know everything *about us*, whereas their operations are designed to be unknowable *to us*. They accumulate vast domains of new knowledge *from us*, but not *for us*. They predict our futures for the sake of others’ gain, not ours. As long as surveillance capitalism and its behavioral futures markets are allowed to thrive, ownership of the new means of behavioral modification eclipses ownership of the means of production as the fountainhead of capitalist wealth and power in the twenty-first century.

These facts and their consequences for our individual lives, our societies, our democracies, and our emerging information civilization are examined in detail in the coming chapters. The evidence and reasoning employed here suggest that surveillance capitalism is a rogue force driven by novel economic imperatives that disregard social norms and nullify the elemental rights associated with individual autonomy that are essential to the very possibility of a democratic society.

Just as industrial civilization flourished at the expense of nature and now threatens to cost us the Earth, an information civilization shaped by surveillance capitalism and its new instrumentarian power will thrive at the expense



of human nature and will threaten to cost us our humanity. The industrial legacy of climate chaos fills us with dismay, remorse, and fear. As surveillance capitalism becomes the dominant form of information capitalism in our time, what fresh legacy of damage and regret will be mourned by future generations? By the time you read these words, the reach of this new form will have grown as more sectors, firms, startups, app developers, and investors mobilize around this one plausible version of information capitalism. This mobilization and the resistance it engenders will define a key battleground upon which the possibility of a human future at the new frontier of power will be contested.

#### *IV. The Unprecedented*

One explanation for surveillance capitalism's many triumphs floats above them all: it is *unprecedented*. The unprecedented is necessarily unrecognizable. When we encounter something unprecedented, we automatically interpret it through the lenses of familiar categories, thereby rendering invisible precisely that which is unprecedented. A classic example is the notion of the "horseless carriage" to which people reverted when confronted with the unprecedented facts of the automobile. A tragic illustration is the encounter between indigenous people and the first Spanish conquerors. When the Taínos of the pre-Columbian Caribbean islands first laid eyes on the sweating, bearded Spanish soldiers trudging across the sand in their brocade and armor, how could they possibly have recognized the meaning and portent of that moment? Unable to imagine their own destruction, they reckoned that those strange creatures were gods and welcomed them with intricate rituals of hospitality. This is how the unprecedented reliably confounds understanding; existing lenses illuminate the familiar, thus obscuring the original by turning the unprecedented into an extension of the past. This contributes to the normalization of the abnormal, which makes fighting the unprecedented even more of an uphill climb.

On a stormy night some years ago, our home was struck by lightning, and I learned a powerful lesson in the comprehension-defying power of the unprecedented. Within moments of the strike, thick black smoke drifted up the staircase

from the lower level of the house and toward the living room. As we mobilized and called the fire department, I believed that I had just a minute or two to do something useful before rushing out to join my family. First, I ran upstairs and closed all the bedroom doors to protect them from smoke damage. Next, I tore back downstairs to the living room, where I gathered up as many of our family photo albums as I could carry and set them outside on a covered porch for safety. The smoke was just about to reach me when the fire marshal arrived to grab me by the shoulder and yank me out the door. We stood in the driving rain, where, to our astonishment, we watched the house explode in flames.

I learned many things from the fire, but among the most important was the unrecognizability of the unprecedented. In that early phase of crisis, I could imagine our home scarred by smoke damage, but I could not imagine its disappearance. I grasped what was happening through the lens of past experience, envisioning a distressing but ultimately manageable detour that would lead back to the status quo. Unable to distinguish the unprecedented, all I could do was to close doors to rooms that would no longer exist and seek safety on a porch that was fated to vanish. I was blind to conditions that were unprecedented in my experience.

I began to study the emergence of what I would eventually call surveillance capitalism in 2006, interviewing entrepreneurs and staff in a range of tech companies in the US and the UK. For several years I thought that the unexpected and disturbing practices that I documented were detours from the main road: management oversights or failures of judgment and contextual understanding.

My field data were destroyed in the fire that night, and by the time I picked up the thread again early in 2011, it was clear to me that my old horseless-carriage lenses could not explain or excuse what was taking shape. I had lost many details hidden in the brush, but the profiles of the trees stood out more clearly than before: information capitalism had taken a decisive turn toward a new logic of accumulation, with its own original operational mechanisms, economic imperatives, and markets. I could see that this new form had broken away from the norms and practices that define the history of capitalism and in that process something startling and unprecedented had emerged.

Of course, the emergence of the unprecedented in economic history cannot be compared to a house fire. The portents of a catastrophic fire were

unprecedented in my experience, but they were not original. In contrast, surveillance capitalism is a new actor in history, both original and *sui generis*. It is of its own kind and unlike anything else: a distinct new planet with its own physics of time and space, its sixty-seven-hour days, emerald sky, inverted mountain ranges, and dry water.

Nonetheless, the danger of closing doors to rooms that will no longer exist is very real. The unprecedented nature of surveillance capitalism has enabled it to elude systematic contest because it cannot be adequately grasped with our existing concepts. We rely on categories such as “monopoly” or “privacy” to contest surveillance capitalist practices. And although these issues are vital, and even when surveillance capitalist operations are also monopolistic and a threat to privacy, the existing categories nevertheless fall short in identifying and contesting the most crucial and unprecedented facts of this new regime.

Will surveillance capitalism continue on its current trajectory to become the dominant logic of accumulation of our age, or, in the fullness of time, will we judge it to have been a toothed bird: A fearsome but ultimately doomed dead end in capitalism’s longer journey? If it is to be doomed, then what will make it so? What will an effective vaccine entail?

Every vaccine begins in careful knowledge of the enemy disease. This book is a journey to encounter what is strange, original, and even unimaginable in surveillance capitalism. It is animated by the conviction that fresh observation, analysis, and new naming are required if we are to grasp the unprecedented as a necessary prelude to effective contest. The chapters that follow will examine the specific conditions that allowed surveillance capitalism to root and flourish as well as the “laws of motion” that drive the action and expansion of this market form: its foundational mechanisms, economic imperatives, economies of supply, construction of power, and principles of social ordering. Let’s close doors, but let’s make sure that they are the right ones.

## *V. The Puppet Master, Not the Puppet*

Our effort to confront the unprecedented begins with the recognition that *we hunt the puppet master, not the puppet*. A first challenge to comprehension