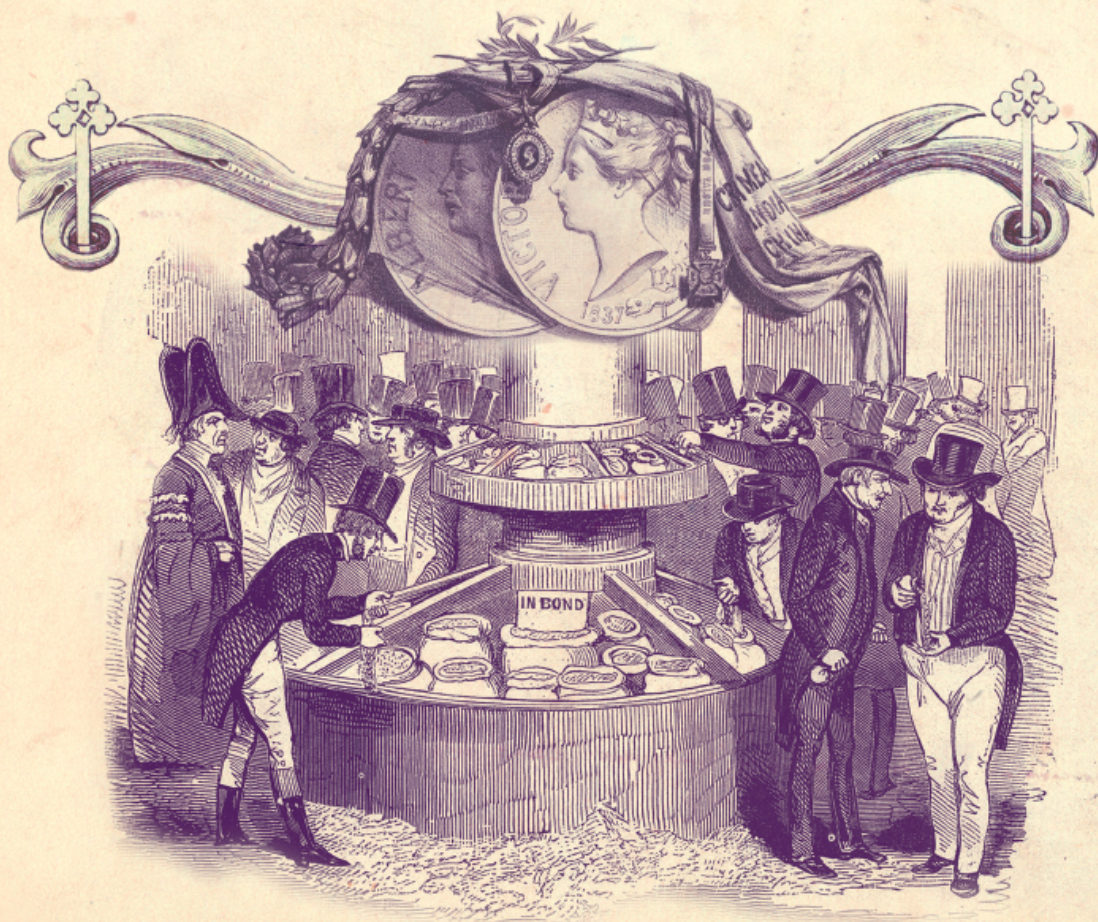


SYLVIA NASAR

GRAND PURSUIT

THE STORY OF ECONOMIC GENIUS



BESTSELLING AUTHOR OF *A BEAUTIFUL MIND*

Sylvia Nasar

**Grand Pursuit: A Story
of Economic Genius**

«HarperCollins»

Nasar S.

Grand Pursuit: A Story of Economic Genius / S. Nasar —
«HarperCollins»,

Sylvia Nasar, the author of the phenomenal bestseller *A Beautiful Mind* takes us on a journey through the epic story of the making of modern economics, and how it rescued mankind from squalor and deprivation by placing its material fate in its own hands, rather than in Fate. Nasar's account begins with Charles Dickens and Henry Mayhew observing and publishing the condition of the poor majority in mid 19th century London, the richest and most glittering place in the world. This was a new pursuit. She then describes the efforts of Marx, Engels, Alfred Marshall, Beatrice and Sydney Webb, and Irving Fisher to put those insights into action - with revolutionary consequences for the world. From the great John Maynard Keynes to Schumpeter, Hayek, Keynes's disciple Joan Robinson, the influential American economists Paul Samuelson and Milton Friedman, and India's Nobel Prize Winner Amartya Sen, she show how the insights of these activist thinkers transformed the world - from one city, London, to the developed nations in Europe and America and now the entire world. In Nasar's dramatic account of these discoverers we witness men and women responding to personal crises, world wars, revolutions, economic upheavals, and each others' ideas to turn back Malthus and transform the dismal science into a triumph over mankind's hitherto age-old destiny of misery and early death. This story, unimaginable less than 200 years ago, is a story of trial and error, and ultimately transcendent, rendered here in stunning narrative.

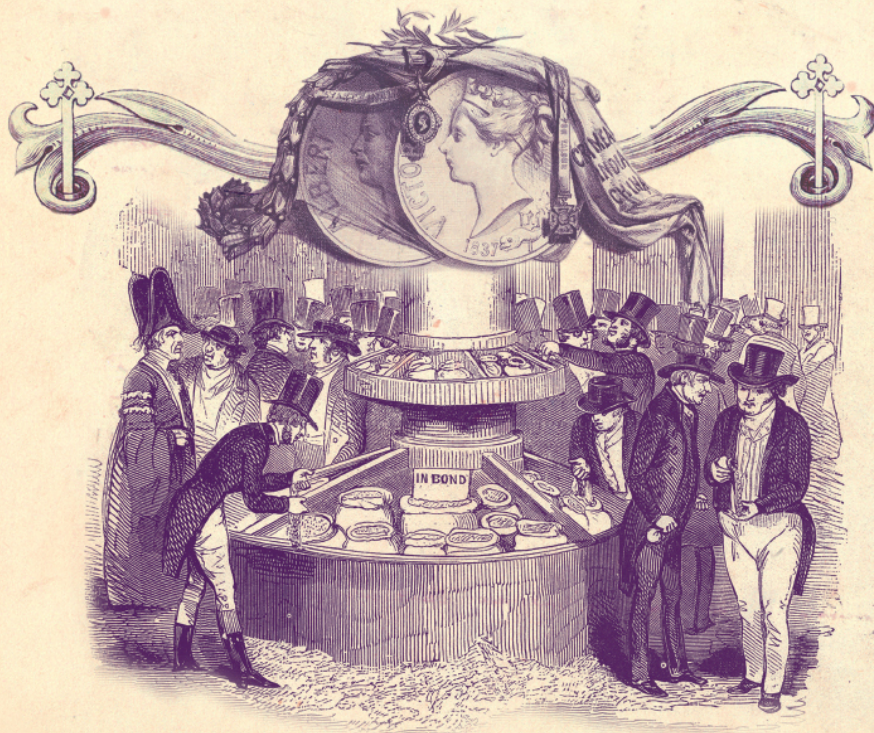
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FOURTH ESTATE • *London*

[Dedication](#)

For my parents

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[Preface The Nine Parts of Mankind](#)

The experience of nations with well-being is exceedingly brief. Nearly all, throughout history, have been very poor.

John Kenneth Galbraith, *The Affluent Society*, 1958¹

In a Misery of this Sort, admitting some few Lenities, and those too but a few, nine Parts in ten of the whole Race of Mankind drudge through Life.

Edmund Burke, *A Vindication of Natural Society*, 1756²

The idea that humanity could turn tables on economic necessity—mastering rather than being enslaved by material circumstances—is so new that Jane Austen never entertained it.

Consider the world of Georgian opulence that the author of *Pride and Prejudice* inhabited. A citizen of a country whose wealth “excited the wonder, the astonishment, and perhaps the envy of the world” her life coincided with the triumphs over superstition, ignorance, and tyranny we call the European Enlightenment.³ She was born into the “middle ranks” of English society when “middle” meant the opposite of average or typical. Compared to Mr. Bennett in *Pride and Prejudice* or even the unfortunate Ms. Dashwoods in *Sense and Sensibility*,⁴ the Austens were quite impecunious. Nonetheless, their income of £210 a year exceeded that of 95 percent of English families at the time.⁵ Despite the “vulgar economy” that Austen was required to practice to prevent “discomfort, wretchedness and ruin,”⁶ her family owned property, had some leisure, chose their professions, went to school, had books, writing paper, and newspapers at their disposal. Neither Jane nor her sister Cassandra were forced to hire themselves out as governesses—the dreaded fate that awaits Emma’s rival Jane—or marry men they did not love.

The gulf between the Austens and the so-called lower orders was, in the words of a biographer, “absolute and unquestioned.”⁷ Edmund Burke, the philosopher, railed at the plight of miners who “scarce ever see the Light of the Sun; they are buried in the Bowels of the Earth; there they work at a severe and dismal Task, without the least Prospect of being delivered from it; they subsist upon the coarsest and worst sort of Fare; they have their Health miserably impaired, and their Lives cut short.”⁸ Yet in terms of their standard of living, even these “unhappy wretches” were among the relatively fortunate.

The typical Englishman was a farm laborer.⁹ According to economic historian Gregory Clark, his material standard of living was not much better than that of an average Roman slave. His cottage consisted of a single dark room shared night and day with wife, children, and livestock. His only source of heat was a smoky wood cooking fire. He owned a single set of clothing. He traveled no farther than his feet could carry him. His only recreations were sex and poaching. He received no medical attention. He was very likely illiterate. His children were put to work watching the cows or scaring the crows until they were old enough to be sent into “service.”

In good times, he ate only the coarsest food—wheat and barley in the form of bread or mush. Even potatoes were a luxury beyond his reach. (“They are very well for you gentry but they must be terribly costly to rear,” a villager told Austen’s mother).¹⁰ Clark estimates that the British farm laborer consumed an average of only 1500 calories a day, one third fewer than a member of a modern hunter-gatherer tribe in New Guinea or the Amazon.¹¹ In addition to suffering chronic hunger, extreme fluctuations in bread prices put him at risk of outright starvation. Eighteenth-century death rates were extraordinarily sensitive to bad harvests and wartime inflations.¹² Yet the typical Englishman was better off than his French or German counterpart, and Burke could assure his English readers that this “slavery with all its baseness and horrors that we have at home is nothing compared to what the rest of the world affords of the same Nature.”¹³

Resignation ruled. Trade and the Industrial Revolution had swelled Britain’s wealth, as the Scottish philosopher Adam Smith predicted in *The Wealth of Nations* in 1776. Still, even the most enlightened observers accepted that these could not trump God’s condemnation of the mass of humanity to poverty and “painful toil . . . all the days of your life.” Stations in life were ordained by

the Deity or nature. When a loyal retainer died, he or she might be praised for “having performed the duties of the Station of life in which he had been pleased to place her in this world.”¹⁴ The Georgian reformer Patrick Colquhoun had to preface his radical proposal that the state educate the children of the poor with assurances that he did not mean that they “should be educated in a manner to elevate their minds above the rank they are destined to fill in society” lest “those destined for laborious occupations and an inferior situation in life” become discontented.¹⁵

In Jane Austen’s world everybody knew his or her place, and no one questioned it.

A mere fifty years after her death, that world was altered beyond recognition. It was not only the “extraordinary advance in wealth, luxury and refinement of taste”¹⁶ Or the unprecedented improvement in the circumstances of those whose condition was assumed to be irremediable. The late Victorian statistician Robert Giffen found it necessary to remind his audience that in Austen’s day wages had been only half as high and “periodic starvation was, in fact, the condition of the masses of working men throughout the kingdom fifty years ago . . .”¹⁷ It was the sense that what had been fixed and frozen through the ages was becoming fluid. The question was no longer if conditions could change but how much, how fast, and at what cost. It was the sense that the changes were not accidental or a matter of luck, but the result of human intention, will, and knowledge.

The notion that man was a creature of his circumstance, and that those circumstances were not predetermined, immutable, or utterly impervious to human intervention is one of the most radical discoveries of all time. It called into question the existential truth that humanity was subject to the dictates of God and nature. It implied that, given new tools, humanity was ready to take charge of its own destiny. It called for cheer and activity rather than pessimism and resignation. Before 1870 economics was mostly about what you couldn’t do. After 1870, it was mostly about what you could do.

“The desire to put mankind into the saddle is the mainspring of most economic study,” wrote Alfred Marshall, the father of modern economics. Economic possibilities—as opposed to spiritual, political, or military ones—captured the popular imagination. Victorian intellectuals were obsessed with economics and an extraordinary number aspired to produce a great work in that field. Inspired by advances in natural sciences, they began to fashion a tool for investigating the “very ingenious and very powerful social mechanism” that is creating not just unparalleled material wealth, but a wealth of new opportunities. Ultimately, the new economics transformed the lives of everyone on the planet.

Rather than a history of economic thought, the book in your hands is the story of an idea that was born in the golden age before World War I, challenged in the catastrophic interwar years by two world wars, the rise of totalitarian governments, and a great depression, and was revived in a second golden age in the aftermath of World War II.

Alfred Marshall called modern economics an “Organon,” ancient Greek for tool, not a body of truths but an “engine of analysis” useful for discovering truths and, as the term implied, an implement that would never be perfected or completed but would always require improvement, adaptation, innovation. His student John Maynard Keynes called economics an “apparatus of the mind” that, like any other science, was essential for analyzing the modern world and making the most of its possibilities.

I chose protagonists who were instrumental in turning economics into an instrument of mastery. I chose men and women with “cool heads but warm hearts”¹⁸ who helped build Marshall’s “engine” and innovated Keynes’s “apparatus.” I chose figures whose temperaments, experiences and genius led them, in response to their own times and places, to ask new questions and propose new answers. I chose figures that took the story from London in the 1840s around the world, ending in Calcutta at the turn of the twenty-first century. I tried to picture what each of them saw when they looked at their world, and to understand what moved, intrigued, inspired them. All of these thinkers were searching for intellectual tools that could help solve what Keynes called “the political problem of mankind: how to combine three things: economic efficiency, social justice and individual liberty.”¹⁹

As Keynes's first biographer Roy Harrod explained, that protean figure considered the artists, writers, choreographers, and composers he loved and admired to be "the trustees of civilization." He aspired to a humbler but no less necessary role for economic thinkers like himself: to be "the trustees, not of civilization, but of the possibility of civilization."²⁰

Thanks in no small part to such trustees, the notion that the nine parts of mankind could free itself from its age-old fate took hold during the Victorian era in London. From there it spread outward like ripples in a pond until it had transformed societies around the globe.

It is still spreading.

[Act I HOPE](#)

[Prologue Mr. Sentiment Versus Scrooge](#)

It was the worst of times.

When Charles Dickens returned from his triumphant American reading tour in June 1842, the specter of hunger was stalking England.¹ The price of bread had doubled after a string of bad harvests. The cities were mobbed by impoverished rural migrants looking for work or, failing that, charity. The cotton industry was in the fourth year of a deep slump, and unemployed factory hands were forced to rely on public relief or private soup kitchens. Thomas Carlyle, the conservative social critic, warned grimly, "With the millions no longer able to live . . . it is too clear that the Nation itself is on the way to suicidal death."²

A firm believer in education, civil and religious liberty, and voting rights, Dickens was appalled by the upsurge in class hatred.³ In August a walkout at a cotton mill turned violent. Within days the dispute had escalated into a nationwide general strike for universal male suffrage, called by leaders of a mass movement for a "People's Charter."⁴ The Chartists had taken up the principal cause of middle-class Radicals in Parliament—one man, one vote—into the streets. The Tory government of Prime Minister Robert Peel promptly dispatched red-coated marines to round up the agitators. Rank-and-file strikers began drifting back to their factories, but Carlyle, whose history of the French revolution Dickens read and reread, warned darkly that "revolt, sullen, revengeful humor of revolt against the upper classes . . . is more and more the universal spirit of the lower classes."⁵

In the glittering London drawing rooms where lords and ladies lionized him, Dickens's republican sympathies were as hard to overlook as his garish ties. After running into the thirty-year-old literary sensation for the first time, Carlyle described him patronizingly as "a small compact figure, very small," adding cattily that he was "dressed a la D'Orsay rather than well"—which is to say as flash as the notorious French count.⁶ Carlyle's best friend, the Radical philosopher John Stuart Mill, was reminded of Carlyle's description of a Jacobin revolutionary with "a face of dingy blackguardism radiated by genius."⁷ At fashionable midnight suppers the Chartist "uprising" provoked bitter arguments. Carlyle backed the Prime Minister who insisted that harsh measures were necessary to keep radicals from exploiting the situation and that the truly needy were already getting help. Dickens, who swore that he "would go farther at all times to see Carlyle than any man alive,"⁸ nonetheless maintained that prudence and justice both demanded that the government grant relief to the able-bodied unemployed and their families.

The Hungry Forties revived a debate that had raged during the famine years, 1799 to 1815, of the Napoleonic Wars. At issue was the controversial law of population propounded by the Reverend Thomas Robert Malthus. A contemporary of Jane Austen and England's first professor of political economy, Malthus was a shy, softhearted Church of England clergyman with a harelip and a hard-edged mathematical mind. While still a curate, he had been tormented by the hunger in his rural parish. The Bible blamed the innate sinfulness of the poor. Fashionable French philosophers like his father's friend the Marquis de Condorcet blamed the selfishness of the rich. Malthus found neither explanation compelling and felt bound to search for a better one. An Essay on the Principle of

Population, published first in 1798 and five more times before his death in 1834, inspired Charles Darwin and the other founders of evolutionary theory and prompted Carlyle to dismiss economics as the “dismal science.”⁹

The fact that Malthus sought to explain was that, in all societies and all epochs including his own, “nine parts in ten of the whole race of mankind” were condemned to lives of abject poverty and grinding toil.¹⁰ When not actually starving, the typical inhabitant of the planet lived in chronic fear of death by hunger. There were prosperous years and lean ones, richer and poorer regions, yet the standard of life never departed for long from subsistence.

In attempting to answer the age-old question “Why?” the mild-mannered minister anticipated not only Darwin but Freud. Sex, he argued, was to blame. Whether from observing the wretched lives of his parishioners, the influence of natural scientists who were beginning to regard man as an animal, or the arrival of his seventh child, Malthus had concluded that the drive to reproduce trumped all other human instincts and abilities, including rationality, ingenuity, creativity, even religious belief.

From this single provocative premise, Malthus deduced the principle that human populations tended always and everywhere to grow faster than the food supply. His reasoning was deceptively simple: Picture a situation in which the supply of food is adequate to sustain a given population. That happy balance can’t last any more than could Adam and Eve’s tenure in paradise. Animal passion drives men and women to marry sooner and have bigger families. The food supply, meanwhile, is more or less fixed in all but the very long run. Result: the amount of grain and other staples that had just sufficed to keep everyone alive would no longer be enough. Inevitably, Malthus concluded, “the poor consequently must live much worse.”¹¹

In any economy where businesses compete for customers and workers for jobs, an expanding population meant more households contending for the food supply, and more workers competing for jobs. Competition would drive down wages while simultaneously pushing food prices higher. The average standard of living—the amount of food and other necessities available for each person—would fall.

At some point, grain would become so expensive and labor so cheap that the dynamic would reverse itself. As living standards declined, men and women would once again be forced to postpone marriage and have fewer children. A shrinking population would mean falling food prices as fewer households competed for the available food. Wages would rise as fewer workers competed for jobs. Eventually, as the food supply and population moved back into balance, living standards would creep back to their old level. That is, unless Nature’s “great army of destruction”¹²—war, disease, and famine—intervened to hurry the process, as happened, for example, in the fourteenth century, when the Black Plague wiped out millions, leaving behind a smaller population relative to the output of food.

Tragically, the new balance would prove no more durable than the original one. “No sooner is the laboring class comfortable again,” Malthus wrote sadly, “than the same retrograde and progressive movements with respect to happiness are repeated.”¹³ Trying to raise the average standard of living is like Sisyphus trying to roll his rock to the top of the hill. The faster Sisyphus gets almost there, the sooner he triggers the reaction that sends the boulder tumbling down the slope again.

Attempts to flout the law of population were doomed. Workers who held out for above-market wages wouldn’t find jobs. Employers who paid their workers more than their competitors did would lose their customers as higher labor costs forced them to raise prices.

For Victorians, the most objectionable implication of Malthus’s law was that charity might actually increase the suffering it was intended to ease—a direct challenge to Christ’s injunction to “love thy neighbor as thyself.”¹⁴ In fact, Malthus was extremely critical of the traditional English welfare system, which provided relief with few strings attached, for rewarding the idle at the expense of the industrious. Relief was proportional to family size, in effect encouraging early marriage and

large families. Conservative and liberal taxpayers alike found Malthus's argument so persuasive that Parliament passed, virtually without opposition, a new Poor Law in 1834 that effectively restricted public relief to those who agreed to become inmates of parish workhouses.

"Please, sir, I want some more." As *Oliver Twist* discovers after making his famous plea, workhouses were essentially prisons where men and women were segregated, put to work at unpleasant tasks, and subjected to harsh discipline—all in return for a place to sleep and "three meals of thin gruel a day, with an onion twice a week, and half a roll on Sundays."¹⁵ The fare in most workhouses probably wasn't as meager as the starvation diet Dickens described in his novel, but there is no doubt that these institutions topped the list of working-class grievances.¹⁶ Like most reform-minded middle-class liberals, Dickens considered the new Poor Law morally repulsive and politically suicidal and the theory on which it was based a relic of a barbaric past. He had recently returned from America with its "thousands of millions of acres of land yet unsettled and uncleared" and where the inhabitants were in "the custom of hastily swallowing large quantities of animal food, three times a-day,"¹⁷ and found the notion that abolishing the workhouse would cause the world to run out of food absurd.

Bent on striking a blow for the poor, Dickens began early in 1843 to write a tale about a rich miser's change of heart, a tale that he liked to think of as a sledgehammer capable of "twenty times the force—twenty thousand times the force" of a political pamphlet.¹⁸

A Christmas Carol, argues the economic historian James Henderson, is an attack on Malthus.¹⁹ The novel is bursting with delicious smells and tastes. Instead of a rocky, barren, overpopulated island where food is scarce, the England of Dickens's story is a vast Fortnum & Mason where the shelves are overflowing, the bins are bottomless, and the barrels never run dry. The Ghost of Christmas Past appears to Scrooge perched on a "kind of throne," with heaps of "turkeys, geese, game, poultry, brawn, great joints of meat, sucking-pigs, long wreaths of sausages, mince-pies, plum-puddings, barrels of oysters, red-hot chestnuts, cherry-cheeked apples, juicy oranges, luscious pears, immense twelfth-cakes, and seething bowls of punch, that made the chamber dim with their delicious steam." "Radiant" grocers, poulterers, and fruit and vegetable dealers invite Londoners into their shops to inspect luscious "pageants" of food and drink.²⁰

In an England characterized by New World abundance rather than Old World scarcity, the bony, barren, anorexic Ebenezer Scrooge is an anachronism. As Henderson observes, the businessman is "as oblivious to the new spirit of human sympathy as he is to the bounty with which he is surrounded."²¹ He is a diehard supporter of the treadmill and workhouse literally and figuratively. "They cost enough," he insists, "and those who are badly off must go there." When the Ghost of Christmas Past objects that "many can't go there; and many would rather die," Scrooge says coldly, "If they would rather die, they had better do it, and decrease the surplus population."

Happily, Scrooge's flinty nature turns out to be no more set in stone than the world's food supply is fixed. When Scrooge learns that Tiny Tim is one of the "surplus" population, he recoils in horror at the implications of his old-fashioned Malthusian religion. "No, no," he cries, begging the Spirit to spare the little boy. "What then?" the Spirit replies mockingly. "If he be like to die, he had better do it, and decrease the surplus population."²² Scrooge repents, resolves to give his long-suffering clerk, Bob Cratchit, a raise, and sends him a prize turkey for Christmas. By accepting the more hopeful, less fatalistic view of Dickens's generation in time to alter the course of future events, Scrooge refutes the grim Malthusian premise that "the blind and brutal past" is destined to keep repeating itself.

The Cratchits' joyous Christmas dinner is Dickens's direct riposte to Malthus, who uses a parable about "Nature's mighty feast" to warn of the unintended consequences of well-meaning charity. A man with no means of support asks the guests to make room for him at the table. In the past, the diners would have turned him away. Beguiled by utopian French theories, they decide to

ignore the fact that there is only enough food for the invited guests. They fail to foresee when they let the newcomer join them that more gatecrashers will arrive, the food will run out before everyone has been served, and the invited guests' enjoyment of the meal will be "destroyed by the spectacle of misery and dependence."²³

The Cratchits' groaning board, wreathed with the family's beaming faces, is the antithesis of Malthus's tense, tightly rationed meal. In contrast to Nature's grudging portions, there is Mrs. Cratchit's pudding—"like a speckled cannon-ball, so hard and firm, blazing in half of half-a-quartern of ignited brandy, and bedecked with Christmas holly stuck into the top"—not large enough for seconds perhaps, but ample for her family. "Mrs. Cratchit said that now the weight was off her mind, she would confess she had had her doubts about the quantity of flour. Everybody had something to say about it, but nobody said or thought it was at all a small pudding for a large family. It would have been flat heresy to do so. Any Cratchit would have blushed to hint at such a thing."²⁴

The Christmas spirit was catching. By the story's end, Scrooge had even stopped starving himself. Instead of slurping his customary bowl of gruel in solitude, the new Scrooge surprises his nephew by showing up unannounced for Christmas dinner. Needless to say, his heir hastens to set a place for him at the table.

Dickens's hope that *A Christmas Carol* would strike the public like a sledgehammer was fulfilled. Six thousand copies of the novel were sold between the publication date of December 19 and Christmas Eve, and the tale would stay in print for the rest of Dickens's life—and ever since.²⁵ Dickens's depiction of the poor earned him satirical labels such as "Mr. Sentiment,"²⁶ but the novelist never wavered in his conviction that there was a way to improve the lot of the poor without overturning existing society.

Dickens was too much a man of business to imagine that schemes for bettering social conditions could succeed unless they could be paid for. He was a "pure modernist" and "believer in Progress" rather than an opponent of the Industrial Revolution. Wildly successful while still in his twenties, he had gone too far on his own talent to doubt that human ingenuity was climbing into the driver's seat. Having escaped poverty by making his way in the new mass-media industry, Dickens was impatient with conservatives such as Carlyle and socialists such as Mill who refused to admit that, as a society, "we have risen slowly, painfully, and with many a hard struggle out of all this social degradation and ignorance" and who "look back to all this blind and brutal past with an admiration they will not grant to the present."²⁷

Dickens's sense that English society was waking up, as if from a long nightmare, proved prescient. Within a year of the Chartist "uprising," a new mood of tolerance and optimism was palpable. The Tory prime minister admitted privately that many of the Chartists' grievances were justified.²⁸ Labor leaders rejected calls for class warfare and backed employers' campaign to repeal import duties on grain and other foodstuffs. Liberal politicians responded to parliamentary commissions on child labor, industrial accidents, and other evils by introducing the Factory Acts of 1844, legislation regulating the hours of women and children.

Dickens never imagined that the world could get along without the calculating science of economics. Instead, he hoped to convert political economists as the Ghost of Christmas Future had converted Scrooge. He wanted them to stop treating poverty as a natural phenomenon, assuming that ideas and intentions were of no importance, or taking for granted that the interests of different classes were diametrically opposed. Dickens was especially eager for political economists to practice "mutual explanation, forbearance and consideration; something . . . not exactly stateable in figures."²⁹ When he launched his popular weekly, *Household Words*, he did so with a plea to economists to humanize their discipline. As he wrote in his inaugural essay, "Political economy is a mere skeleton

unless it has a little human covering, and filling out, a little human bloom upon it, and a little human warmth in it.”³⁰

Dickens was not alone. There were—and would be—men and women in London and all over the world who reached the same conclusion. Having overcome formidable obstacles, they too saw man as a creature of circumstance. They too realized that the material conditions of life for the “nine parts in ten of the whole race of mankind” were no longer immutable, predetermined by the “blind and brutal past,” and utterly beyond human control or influence. Convinced that economic circumstances were open to human intervention yet skeptical of utopian schemes and “artificial societies” imposed by radical elites, they devoted themselves to fashioning an “engine of analysis”³¹ (or, as a later economist put it, an “apparatus of the mind”)³² that they could use to understand how the modern world worked and how humanity’s material condition—on which its moral, emotional, intellectual, and creative condition depended—could be improved.

[Chapter I Perfectly New: Engels and Marx in the Age of Miracles](#)

The exact point is that it has not gone on a long time. [It is] perfectly new. . . .

Our system though curious and peculiar may be worked safely . . . if we wish to work it, we must study it.

—Walter Bagehot, *Lombard Street*¹

“See to it that the material you’ve collected is soon launched into the world,” the twenty-three-year-old Friedrich Engels wrote to his corevolutionist, Karl Marx. “It’s high time. Down to work, then, and quickly into print!”²

In October 1844, continental Europe was a smoldering volcano threatening to erupt. Marx, the son-in-law of a Prussian nobleman and editor of a radical philosophy journal, was in Paris, where he was supposed to be writing an economic treatise to prove with mathematical certainty that revolution must come. Engels, the scion of prosperous Rhenish textile merchants, was at his family’s estate, up to his eyebrows in English newspapers and books. He was drafting a “fine bill of indictment” against the class to which he and Marx belonged.³ His only anxiety was that the revolution would arrive before the gauleys.

A romantic rebel with literary aspirations, Engels was already an “embryonic revolutionary” and “enthusiastic communist” when he met Marx for the first time two years earlier. Having spent his adolescence freeing himself from his family’s strict Calvinism, the slender, fair, severely nearsighted Royal Prussian artilleryman had trained his sights on the twin tyrannies of God and Mammon. Convinced that private property was the root of all evil and that a social revolution was the only way to establish a just society, Engels had yearned to live the “true” life of a philosopher. To his infinite regret, he was predestined for the family trade. “I am not a Doctor,” he had corrected the wealthy publisher of a radical newspaper who mistook him for a scholar, adding that he could “never become one. I am only a businessman.”⁴

Engels Senior, a fervid Evangelical who clashed frequently with his freethinking son, wouldn’t have it any other way. As a proprietor, he was quite progressive. He supported free trade, adopted the latest British spinning equipment in his factory in the Wuppertal, and had recently opened a second plant in Manchester, the Silicon Valley of the industrial revolution. But as a father he could not stomach the notion of his eldest son and heir as a professional agitator and freelance journalist. When the global cotton trade collapsed in the spring of 1842, followed by the Chartist strikes, he insisted that the young Engels report to work at Ermen & Engels in Manchester as soon as his compulsory military service was over.

Bowing to filial duty hardly meant the death of Engels’s dream of becoming the scourge of authority in all forms. Manchester was notorious for the militancy of its factory hands. Convinced that the industrial strife was a prelude to wider insurrection, Engels had been only too delighted to go where the action was and to use the opportunity to advance his writing career.

En route to England in November, he had stopped in Cologne, where he visited the grubby offices of the prodemocracy newspaper *Rheinische Zeitung*, to which he had been contributing occasional articles under the byline X. The new editor was a brusque, cigar-smoking, exceedingly myopic philosopher from Trier who treated him rudely. Engels had taken no offense and had been rewarded with an assignment to report on the prospects for revolution in England.

When Engels arrived in Manchester, the general strike had petered out and the troops had returned to their London barracks, but there were unemployed men hanging around street corners, and many of the mills were still idle. Despite his conviction that the factory owners would rather see their employees starve than pay a living wage, Engels could not help noticing that the English factory worker ate a great deal better than his counterpart in Germany. While a worker at his family's textile mill in Barmen dined almost exclusively on bread and potatoes, "Here he eats beef every day and gets a more nourishing joint for his money than the richest man in Germany. He drinks tea twice a day and still has enough money left over to be able to drink a glass of porter at midday and brandy and water in the evening."⁵

To be sure, unemployed cotton workers had had to turn to the Poor Law and private soup kitchens to avoid "absolute starvation," and Edwin Chadwick's just-published Report on the Sanitary Condition of the Labouring Population of Great Britain revealed that the average male life span in Manchester was seventeen years, half that of nearby rural villages, and that just one in two babies survived past age five. Chadwick's graphic descriptions of streets that served as sewers, cottages damp with mold, rotting food, and rampant drunkenness demonstrated that British workers had ample grounds for resentment.⁶ But while Carlyle, the only Englishman Engels admired, warned of working-class revolt, Engels found that most middle-class Englishmen considered the possibility remote and looked to the future with "remarkable calm and confidence."⁷

Once settled in his new home, Engels resolved the conflict between his family's demands and his revolutionary ambitions in a characteristically Victorian fashion. He lived a double life. At the office and among his fellow capitalists, he resembled the "sprightly, good humored, pleasant" Frank Cheeryble, the "nephew of the firm" in Dickens's *Nicholas Nickleby* who "was coming to take a share in the business here" after "superintending it in Germany for four years."⁸ Like the novel's attractive young businessman, Engels dressed impeccably, joined several clubs, gave good dinners, and kept his own horse so that he could go fox hunting at friends' estates. In his other, "true" life, he "forsook the company and the dinner-parties, the port-wine and champagne" to moonlight as a Chartist organizer and investigative journalist.⁹ Inspired by the exposés of English reformers and often accompanied by an illiterate Irish factory girl with whom he was having an affair, Engels spent his free time getting to know Manchester "as intimately as my native town," gathering materials for the dramatic columns and essays he filed to various radical newspapers.

Engel's twenty-one months as a management trainee in England led him to discover economics. While German intellectuals were obsessed by religion, the English seemed to turn every political or cultural issue into an economic question. It was especially true in Manchester, a stronghold of English political economy, the Liberal Party, and the Anti-Corn Law League. To Engels, the city represented the interconnections between the industrial revolution, working class militancy, and the doctrine of *laissez-faire*. Here "it was forcibly brought to my notice that economic factors, hitherto ignored or at least underestimated by historians, play a decisive role in the development of the modern world," he later re-called.¹⁰

Frustrated as he was by his lack of a university education, particularly his ignorance of the works of Adam Smith, Thomas Malthus, David Ricardo, and other British political economists, Engels was nonetheless perfectly confident that British economics was deeply flawed. In one of the last essays he wrote before leaving England, he hastily roughed out the essential elements of a rival doctrine. Modestly, he called this fledgling effort "Outlines of a Critique of Political Economy."¹¹

Across the English Channel in St. Germain-en-Laye, the wealthiest suburb of Paris, Karl Marx had buried himself in histories of the French Revolution. When Engels's final piece arrived in the post, he was jolted back to the present, electrified by his correspondent's "brilliant sketch on the critique of economic categories."¹²

Marx too was the prodigal (and profligate) son of a bourgeois father. He too was an intellectual who felt trapped in a philistine age. He shared Engels's sense of German intellectual and cultural superiority, admired all things French, and bitterly resented British wealth and power. Yet he was in many ways Engels's opposite. Domineering, impetuous, earnest, and learned, Marx had none of the other man's glibness, adaptability, or cheerful bonhomie. Only two and a half years older, Marx was not only married and the father of a baby girl but also a doctor of philosophy who insisted on being addressed as such. A short, powerfully built, almost Napoleonic figure, he had thick jet-black hair that sprouted from cheeks, arms, nose, and ears. His "eyes glowed with an intelligent and malicious fire," and, as his assistant at the *Rheinische Zeitung* recalled, his favorite conversation starter was "I am going to annihilate you."¹³ One of his biographers, Isaiah Berlin, identified Marx's "belief in himself and his own powers" as his "single most outstanding characteristic."¹⁴

While Engels was practical and efficient, Marx was, as George Bernard Shaw pointed out, "without administrative experience" or any "business contact with a living human being."¹⁵ He was undeniably brilliant and erudite, but he had never acquired Engels's work ethic. Whereas Engels was ready at any hour to roll up his sleeves and start writing, Marx was more likely to be found in a café, drinking wine and arguing with Russian aristocrats, German poets, and French socialists. As one of his backers once reported, "He reads a lot. He works with extraordinary intensity . . . He never finishes anything. He interrupts every bit of research to plunge into a fresh ocean of books . . . He is more excitable and violent than ever, especially when his work has made him ill and he has not been to bed for three or four nights on end."¹⁶

Marx had been forced to turn to journalism when he failed to obtain an academic post at a German university and his long-suffering family finally cut him off financially.¹⁷ After just six months at his newspaper job in Cologne—"the very air here turns one into a serf"—he picked a fight with the Prussian censor and quit. Luckily, Marx was able to convince a wealthy Socialist to finance a new philosophical journal, the *Franco-German Annals*, and appoint him to run it in his favorite city, Paris.

Engels's reports from Manchester emphasizing the link between economic causes and political effects made a powerful impression on Marx. Economics was new to him. The terms proletariat, working class, material conditions, and political economy had yet to crop up in his correspondence. As his letter to his patron shows, he had envisioned an alliance of "the enemies of philistinism, i.e. all thinking and suffering people," but his goal was reforming consciousness, not abolishing private property. His contribution to the first and only issue of the *Franco-German Annals* makes clear that Marx meant to hurl criticisms, not paving stones, at the powers that be: "Every individual must admit to himself that he has no precise idea about what ought to happen. However, this very defect turns to the advantage of the new movement, for it means that we do not anticipate the world with our dogmas but instead attempt to discover the new world through the critique of the old."

He went on, "We shall simply show the world why it is struggling . . . Our program must be: the reform of consciousness . . . the self-clarification . . . of the struggles and wishes of the age." The philosopher's role was like that of a priest: "What is needed above all is a confession, and nothing more than that. To obtain forgiveness for its sins, mankind needs only to declare them for what they are."

Marx and Engels had their first real encounter in August 1844 at the *Café de Regence*. Engels stopped in Paris on his way home to Germany expressly to see the man who had earlier rebuffed him. They talked, argued, and drank for ten straight days, discovering again and again that each had been thinking the other's thoughts. Marx shared Engels's conviction of the utter hopelessness of reforming modern society, and the need to free Germany from God and traditional authority. Engels introduced

him to the idea of the proletariat. Marx felt an immediate sense of identification with that class. He saw the proletariat not only, as one might expect, as the “naturally arising poor” but also as the “artificially impoverished . . . masses resulting from the drastic dissolution of society,”¹⁸ aristocrats who had lost their lands, bankrupt businessmen, and unemployed academics.

Like Carlyle and Engels, Marx seized on hunger and rebelliousness as evidence of the bourgeoisie’s unfitness for rule: “absolutely imperative need” will drive the proletariat to overthrow its oppressors, he predicted.¹⁹ By abolishing private property, the proletariat would free not only itself but the entire society. As the historian Gertrude Himmelfarb observes, Engels and Marx were hardly the only Victorians who were convinced that modern society was suffering from a terminal illness.²⁰ They differed from Carlyle and other social critics chiefly in their emphasis on the inevitability of the demise of the existing social order. Even as they struggled to free themselves from Protestant dogma, they became convinced that the economic collapse and violent revolution they predicted were fates from which there was no escape—so to speak, predestined. While Carlyle’s doomsday message was meant to inspire repentance and reform, theirs was meant to urge their readers to get on the right side of history before it was too late.

In *The Condition of the Working Class in England* in 1844, Engels had made a compelling, if not necessarily accurate, case that England’s industrial workforce normally lived in a state of semistarvation and that famine had driven it to violence against factory owners in 1842. What his journalistic account could not establish was that workers’ precarious existence was immutable and that no solution existed short of the overthrow of English society and the imposition of a Chartist dictatorship. This is the argument that Engels had kept losing with his English acquaintances and the problem he had urged Marx to take up. He explained to Marx that in England, social and moral problems were being redefined as economic problems, and social critics were being forced to grapple with economic realities. Just as the disciples of the German philosopher Georg Hegel had used religion to dethrone religion and expose the hypocrisy of Germany’s ruling elite, they would have to use the principles of political economy to eviscerate the hateful English “religion of money.”

When the new friends parted, Engels went home to Germany to pour out his charges of “murder, robbery and other crimes on a massive scale” against the British business class (and, by implication, Germany’s as well).²¹ Working in his family’s cotton thread factory had confirmed Engels’s feeling that business was “filthy.”²² He had “never seen a class so deeply demoralized, so incurably debased by selfishness, so corroded within, so incapable of progress, as the English bourgeoisie.” These “bartering Jews,” as he called the businessmen of Manchester, were devotees of “Political Economy, the Science of Wealth,” indifferent to the suffering of their workers as long as they made a profit and, indeed, to all human values except money. “The huckstering spirit” of the English upper classes was as repugnant as the “Pharisaic philanthropy” that they dispensed to the poor after “sucking out their very life-blood.” With English society increasingly “divided into millionaires and paupers,” the imminent “war of the poor against the rich” would be “the bloodiest ever waged.”²³ As fast and fluent a writer as he was a talker, Engels finished his manuscript in less than twelve weeks.

All the while, Engels badgered Marx to “Do try and finish your political economy book . . . It must come out soon.”²⁴ His own book was published in Leipzig in July 1845. *The Condition of the Working Class in England* drew favorable reviews and sold well even before the economic and political crises that the author correctly forecast for “1846 or 1847” gave it the added cache of successful prophecy. *Das Kapital*, the grandiose treatise in which Marx promised to reveal the “law of motion of modern society,” took twenty years longer.²⁵

In 1849, when Henry Mayhew, a London *Morning Chronicle* correspondent, climbed to the Golden Gallery atop St. Paul’s Cathedral to get a bird’s-eye view of his hometown, he found that “it was impossible to tell where the sky ended and the city began.”²⁶ At nearly 20 percent a decade,

the city's growth "seemed to obey no known law."²⁷ By the middle of the century, the population had swelled to two and one half million. There were more than enough Londoners to populate two Parises, five Viennas, or the eight next-largest English cities combined.²⁸

London "epitomized the 19th century economic miracle."²⁹ The pool of London was the world's biggest and most efficient port. As early as 1833, a partner in the Barings Brothers Bank observed that London had become the "center upon which commerce must turn." London's wet docks covered hundreds of acres and had become a prime tourist attraction—not least because of a twelve-acre underground wine cellar that gave visitors a chance to taste the Bordeaux. The smells—pungent tobacco, overpowering rum, sickening hides and horn, fragrant coffee and spices—evoked a vast global trade, an endless stream of migrants, and a far-flung empire.

"I know nothing more imposing than the view which the Thames offers during the ascent from the sea to London Bridge," Engels had confessed in 1842 after seeing London for the first time. "The masses of buildings, the wharves on both sides, especially from Woolwich upwards, the countless ships along both shores, crowding ever closer and closer together, until, at last, only a narrow passage remains in the middle of the river, a passage through which hundreds of steamers shoot by one another; all this is so vast, so impressive, that a man cannot collect himself."³⁰

London's railway stations were "vaster than the walls of Babylon . . . vaster than the temple of Ephesus," John Ruskin, the art historian, claimed. "Night and day the conquering engines rumbled," wrote Dickens in *Dombey and Son*. From London, a traveler could go as far north as Scotland, as far east as Moscow, as far south as Baghdad. Meanwhile, the railroad was pushing London's boundaries ever farther into the surrounding countryside. As Dickens related, "The miserable waste ground, where the refuse-matter had been heaped of yore, was swallowed up and gone, and in its frowsy stead were tiers of warehouses, crammed with rich goods and costly merchandise. Bridges that had led to nothing, led to villas, gardens, churches, healthy public walks. The carcasses of houses, and beginnings of new thoroughfares, had started off upon the line at steam's own speed, and shot away into the country in a monster train."³¹

The financial heart of world commerce beat in the "City," London's financial center. The financier Nathan Mayer Rothschild, not given to exaggeration, called London "the bank of the world."³² Merchants came there to raise short-term loans to finance their global trade, and governments floated bonds to build roads, canals, and railways. Although the London stock exchange was still in its infancy, the City's merchants and bill discounters attracted three times the amount of "borrowable money" as New York and ten times as much as Paris.³³ Bankers', investors', and merchants' hunger for information helped make London into the world's media and communications center. "Anyone can get the news," a Rothschild complained in 1851 when the advent of the telegraph made his carrier pigeon network obsolete.³⁴

London, not the new industrial towns in the north, boasted the biggest concentration of industry in the world, employing one in six manufacturing workers in England, nearly half a million men and women.³⁵ That was roughly ten times the number of cotton workers in Manchester. The "dark satanic mills" in William Blake's *Jerusalem* probably weren't in the Coketowns of northern England. Like the monster Albion flour mill, which employed five hundred workers and was powered by one of James Watt's gargantuan steam engines, they were more likely on the Thames in London.³⁶ A popular 1850s travel guide refers to "water works, gas works, shipyards, tanning yards, breweries, distilleries, glass works the extent of which would excite no little surprise in those who for the first time visited them."³⁷ True, London had no single dominant industry such as textiles, and most of its manufacturing firms employed fewer than ten hands,³⁸ but entire industries—printing in Fleet Street, paint, precision instruments in Camden, and furniture making around Tottenham Road—were concentrated in London. The vast shipyards at Poplar and Millwall employed fifteen thousand men

and boys to build the biggest steamships and armor-plated warships afloat. But while factory towns like Leeds and Newcastle supplied the bulk of England's exports, most of London's manufacturers catered to the needs of the city itself. Wandsworth had its flour mills, Whitechapel its sugar refiners, Cheapside its breweries, Smithfield its cattle markets, and Bermondsey its tanneries, candle and soap makers. Mayhew called London the world's "busiest hive."³⁹

Above all, London was the world's biggest market. Here one could get "at a low cost and with the least trouble, conveniences, comforts, and amenities beyond the compass of the richest and most powerful monarchs."⁴⁰ In the prosperous West End of London "everything shines more or less, from the window panes to the dog collars" and "the air is colored, almost scented, by the presence of the biggest society on earth."⁴¹ Regent Street displayed the greatest collection of "watchmakers, haberdashers, and photographers; fancy stationer, fancy hosiers, and fancy stay makers; music shops, shawl shops, jewelers, French glove shops, perfumery, and point lace shops, confectioners and milliners" the world had ever seen.⁴²

Mayhew astutely attributed "the immensity of . . . commerce" in the city to "the unparalleled prevalence of merchant people in London, and the consequent vastness of wealth."⁴³ The Economist boasted, "The richest persons in the Empire throng to her. Her scale of living is most magnificent; her rents highest; her opportunities of money-making widest."⁴⁴ One in six Britons lived in London, but London accounted for an even bigger share of national income. Incomes were, on average, 40 percent higher than in other English cities, not only because London had more wealthy residents but also because London wages were at least one-third higher than elsewhere. Her huge population and vast income made London by far the greatest concentration of consumer demand in the world. The economic historian Harold Perkin argues that "Consumer demand was the ultimate economic key to the Industrial Revolution," providing a more powerful impetus than the invention of the steam engine or the loom.⁴⁵ London's needs, passion for novelty, and growing spending power supplied entrepreneurs with compelling incentives to adopt new technologies and create new industries.

If London attracted some of the richest individuals on earth, it was also a magnet for a large number of the poorest. When Mayhew referred to "the unprecedented multitude of individuals attracted by such wealth to the spot," he meant not only the shopkeepers, tradesmen, lawyers, and doctors who catered specifically to the rich, but also the legions of unskilled migrants from the surrounding rural counties who came to work as servants, seamstresses, shoemakers, carpenters, dockhands, casual laborers, and messengers, or, failing that, as petty criminals, scavengers, and prostitutes.⁴⁶ The juxtaposition between rich and poor was rendered more striking by the exodus of the middle classes to the suburbs and, more significant in the minds of observers, by the universal assumption that London presaged the future of society. Poverty was not, of course, new. But in the country, hunger, cold, disease, and ignorance appeared to be the work of nature. In the great capital of the world, misery seemed to be man-made, almost gratuitous. Wasn't the means to relieve it at hand, actually visible in the form of elegant mansions, elaborate gowns, handsome carriages, and lavish entertainments? Well, no. It only looked that way to unsophisticated observers who had no idea that letting the poor eat cake for a day or two would hardly solve the problem of producing enough bread, clothing, fuel, housing, education, and medical care to raise most Englishmen out of poverty. Mayhew was not alone in naïvely supposing that the rows of brick warehouses, "vast emporia," contained wealth "enough, one would fancy, to enrich the people of the whole globe."⁴⁷

Journalists, artists, novelists, social reformers, clergymen, and other students of society were drawn to London as "an epitome of the round world" where "there is nothing one cannot study at first hand."⁴⁸ They came there to see where society was heading. While eighteenth-century visitors were apt to focus on sin, crime, and filth, those who flocked to Victorian London were more often struck by its extremes of poverty and wealth.

November was the worst month for air quality in the world's biggest and richest metropolis, observed Charles Dickens in *Bleak House*.⁴⁹ On the twenty-ninth of that month in 1847, Friedrich Engels and Karl Marx struggled up Great Windmill Street toward Piccadilly, heads bowed and trying their best to avoid slipping in the ankle-deep mud or being trampled by the human throng. Their extreme myopia and the sulfurous yellow London fog obscured everything more than a foot ahead.

Engels, still as erect as a cadet, and Marx, still with a jet-black mane and magnificent whiskers, were in London to attend a congress of the Communist League, one of many tiny groups comprised of Central European utopians, Socialists, and anarchists, as well as the odd Chartist and occasional Cockney clerk in favor of male suffrage, that flourished in the relative safety of English civil liberties and lenient immigration law. When the recent collapse of a railroad boom spread financial panic in London and on the Continent, the league had hastily convened a meeting to hammer out its hitherto somewhat nebulous goals. Engels had already convinced the league to drop its insipid slogan, "All Men Are Brothers," in favor of the more muscular "Proletarians of All Countries Unite!" He had composed two drafts of a manifesto that he and Marx meant for the league to adopt. They had discussed how they could shoulder aside those in the leadership who were convinced that workers' grievances could be addressed without overthrowing the existing order. "This time we shall have our way," Engels had sworn in his most recent letter to Marx.⁵⁰

They finally found their way to Soho and the Red Lion pub. The headquarters of the German Workers' Educational Union, a front for the illegal league, was on the second floor. The room had a few wooden tables and chairs and, in one corner, a grand piano meant to make refugees from Berlin and Vienna stranded in "unmusical" London feel at home.⁵¹ The air smelled of wet woollens, penny tobacco, and warm beer. For ten days, Engels and Marx dominated the proceedings, navigating the atmosphere of conspiracy and suspicion like fishes in water.

At one point, Marx read Engels's draft manifesto out loud. One delegate recalled the philosopher's relentless logic as well as the "sarcastic curl" of his mouth. Another remembered that Marx spoke with a lisp, which caused some listeners to hear "eight-leaved clovers" when he actually said "workers."⁵² Some delegates repudiated Engels and Marx as "bourgeois intellectuals." At the end of the ten days, however, "all opposition . . . was overcome."

The congress voted to adopt their manifesto and agreed to declare itself in favor of "the overthrow of the bourgeoisie, the abolition of private property, and the elimination of inheritance rights." Marx, who had already burned through several family bequests but was, as usual, broke again, was commissioned to draft the final version of the league's call to arms.⁵³

Engels had wanted the pamphlet to be a "simple historical narrative" and proposed that it be called *The Communist Manifesto*. He thought it important to tell the story of modern society's origins in order to show why it was destined to self-destruct. He envisioned the Manifesto as a sort of Genesis and Revelation rolled into one.⁵⁴

Three years after Engels introduced Marx to English political economy, Marx was already calling himself an economist.⁵⁵ He had also absorbed the evolutionary theories that were beginning to pervade the sciences. Like other left-wing disciples of Hegel, he viewed society as an evolving organism rather than one that merely reproduced itself from one generation to another.⁵⁶

He wanted to show that the industrial revolution signified more than the adoption of new technologies and the spectacular leap in production. It had created huge cities, factories, and transport networks. It had launched a vast global trade that made universal interdependence, not national self-sufficiency, the rule. It had imposed new patterns of boom and bust on economic activity. It had torn old social groups from their moorings and created entirely new ones, from millionaire industrialists to poverty-stricken urban laborers.

For a dozen centuries, as empires rose and fell and the wealth of nations waxed and waned, the earth's thin and scattered population had grown by tiny increments. What remained essentially unchanged were man's material circumstances, circumstances that guaranteed that life would remain miserable for the vast majority. Within two or three generations, the industrial revolution demonstrated that the wealth of a nation could grow by multiples rather than percentages. It had challenged the most basic premise of human existence: man's subservience to nature and its harsh dictates. Prometheus stole fire from the gods, but the industrial revolution encouraged man to seize the controls.

Engels and Marx perceived more clearly than most of their contemporaries the newness of the society in which they came of age, and tried to work out its implications more obsessively. Modern society was evolving faster than any society in the past, they believed. The consciousness of change and changeability was a breach in the firmament of traditional truths and received wisdom. In Marx's memorable phrase, "All that is solid melts into air."⁵⁷ Surely the vividness of their perceptions owes something to the fact that they came to England as foreign correspondents, so to speak, and that they came from a country that had yet to go through its industrial revolution. The trips from Trier and Barmen in Germany to London were journeys forward in time. Hardly anyone, except perhaps Charles Dickens, was as simultaneously thrilled and revolted by what they witnessed. They professed to despise England's "philistine" commercial culture while envying her wealth and power. Their observations convinced them that in the modern world, political power grew not from the barrels of guns but out of a nation's economic superiority and the energy of its business class.

England was the colossus astride the modern world. "If it is a question of which nation has done most, no one can deny that the English are that nation," Engels admitted.⁵⁸ Industry and trade had made her the world's richest nation. Between 1750 and 1850, the value of goods and services produced in Britain every year—her gross domestic product—had quadrupled, growing more in a hundred years than in the previous thousand.⁵⁹ The Manifesto emphasized the unprecedented explosion of productive power that Engels and Marx believed would determine political power in the modern world:

The bourgeoisie, during its rule of scarce one hundred years, has created more massive and more colossal productive forces than have all preceding generations together . . . It has been the first to show what man's activity can bring about. It has accomplished wonders far surpassing Egyptian pyramids, Roman aqueducts, and Gothic cathedrals; it has conducted expeditions that put in the shade all former Exoduses of nations and crusades.⁶⁰

Marx and Engels had no doubt that England's capacity to produce would continue to grow by multiples. But they were convinced that the distributive mechanism was fatally flawed and would cause the whole system to collapse. Despite the extraordinary accession of wealth, the abysmally low living standards of the three-fourths of the British people who belonged to the laboring classes had improved only a little. Recent estimates by Gregory Clark and other economic historians suggest that the average wage rose by about one-third between 1750 and 1850 from an extremely low level.⁶¹ True, the laboring classes were now far more numerous, the English population having trebled. And they were not as miserable as their German or French counterparts.

But advances in some areas were balanced by retrogressions elsewhere. For one thing, most of the gain in pay occurred after 1820, and the lion's share went to skilled craftsmen and factory operatives. Any improvement in the wages of unskilled laborers, including farmworkers, was marginal and was offset, as Malthus had feared, by bigger families. Employment was less secure because manufacturing and construction were subject to booms and busts. Hours were longer, and wives and children were more liable to work as well.

Living standards of urban workers were further undermined by the degradation of the physical environment. The mass migration from the country to the city was taking place before the germ theory

of disease had been discovered and before garbage collection, sewers, and clean water supplies were commonplace. Despite the greater poverty of rural England, life expectancy in the countryside was about forty-five versus thirty-one or thirty-two in Manchester or Liverpool. Filth and malnutrition simply weren't as deadly in less-contagious circumstances. At a time when cities like Liverpool were expanding at rates between 31 and 47 percent every decade, epidemics posed a constant threat. The richest of the rich were not immune—Prince Albert, Queen Victoria's husband, was carried off by typhoid—but the risks were magnified by poor nutrition and crowding. As the influx of migrants into cities accelerated in the first half of the nineteenth century, the health of the average worker stopped improving with income or actually deteriorated. Life expectancy at birth rose from thirty-five to forty between 1781 and 1851, but raw death rates stopped falling in the 1820s. Infant mortality rose in many urban parishes, and adult height—a measure of childhood nutrition, which is affected by disease as well as diet—of men born in the 1830s and 1840s fell.⁶²

Reactionaries and radicals alike wondered if England was suffering from a Midas curse. "This successful industry of England, with its plethoric wealth, has as yet made nobody rich; it is an enchanted wealth," thundered Carlyle.⁶³ The economic historian Arnold Toynbee argued that the first half of the nineteenth century was "a period as disastrous and as terrible as any through which a nation has ever passed. It was disastrous and terrible, because side by side with a great increase of wealth was seen an enormous increase in pauperism; and production on a vast scale, the result of free competition, led to a rapid alienation of classes and the degradation of a large body of producers."⁶⁴

True, as England's leading philosopher, John Stuart Mill, pointed out, the gradual removal of laws, levies, and licenses that tied the "lower orders" to particular villages, occupations, and masters had increased social mobility: "Human beings are no longer born to their place in life . . . but are free to employ their faculties and such favorable chances as offer, to achieve the lot which may appear to them most desirable."⁶⁵ But even Mill, a libertarian with strong Socialist sympathies, could see little improvement in the well-being of most Englishmen: "Hitherto it is questionable if all the mechanical inventions yet made have lightened the day's toil of any human being."⁶⁶

Thus, in the second year of the potato famine in Ireland, the authors of *The Communist Manifesto* repeated Engels's earlier claim that as the nation grew in wealth and power, the condition of its people only worsened: "The modern labourer . . . instead of rising with the progress of industry, sinks deeper and deeper below the conditions of existence of his own class. He becomes a pauper, and pauperism develops more rapidly than population and wealth. And here it becomes evident that the bourgeoisie is unfit any longer to be the ruling class in society. . . . The proletarians have nothing to lose but their chains. They have the world to win. WORKING MEN OF ALL COUNTRIES, UNITE!⁶⁷

Having been ejected from France for publishing a satirical sketch of the Prussian king, Marx, his growing family, and the family retainer had been living in Belgium on a publisher's advance for his economics treatise. At the end of his month-long stay in London, Marx had returned to his suburban villa in Brussels, where he promptly put off the task of writing the final version and threw himself into a lecture series . . . on the economics of exploitation. In January, after league officials threatened to hand the assignment to someone else, he finally picked up his pen. Just before news of fighting in Paris between Republicans and the municipal guard reached Great Windmill Street, his partially finished final draft arrived in the mail. On February 21, the league had one thousand copies of the *Manifesto*, written in German, printed and delivered to the German border with France. All but one copy was promptly confiscated by the Prussian authorities.

Marx and Engels waited impatiently for Armageddon. Like many nineteenth-century romantics, they "saw themselves as living in a general atmosphere of crisis and impending catastrophe" in which anything could happen.⁶⁸ John of Patmos, the author of the book of Revelation, had supplied them with the perfect finale for modern society and their *Manifesto*: society splits into

two diametrically opposed camps, there is a final battle, Rome falls, the oppressed receive justice, the oppressors are judged, and the end of history comes.

History did not end in 1848. The French revolution of that year led not to Socialism or even universal male suffrage, but to the reign of Napoléon III. The declaration of the French Republic resulted in Marx's summary ejection from Belgium and, a few weeks after he had found a new bolt-hole in Paris, persecution by the French authorities. When the Paris police threatened to banish him to a swampy, disease-ridden village hundreds of miles from the capital, Marx objected on grounds of health and began to look around for a country that would take him. In August 1849 he moved to London, that "Patmos of foreign fugitives" and home of the former French king Louis Philippe and countless other political exiles.⁶⁹ It would be for only a short time, he consoled himself.

Marx's arrival in London coincided with one of the worst cholera epidemics in the city's history. By the time it had run its course, 14,500 adults and children had died.⁷⁰ The outbreak encouraged Henry Mayhew, the journalist, to undertake a remarkable series of newspaper stories about London's poor.⁷¹ A scientist *manqué* who had a terrible relationship with his father, Mayhew was plump, energetic, and engaging, but absolutely hopeless about money. At thirty-seven, the former actor and cofounder of the humor magazine *Punch* was still recovering from a humiliating bankruptcy that had cost him his London town house and nearly landed him in jail. After months of grinding out pulp fiction with self-mocking titles such as *The Good Genius That Turned Everything into Gold*, Mayhew saw a chance for a comeback.

Mayhew's eighty-eight-part series took *Chronicle* readers on a house-by-house tour in the "very capital of cholera."⁷² Jacob's Island was a particularly noxious corner of Bermondsey on the south side of the Thames immortalized by Dickens in *Oliver Twist*. Mayhew promised readers a sensational portrait of the district's inhabitants "according as they will work, they can't work, and they won't work."⁷³ He assured the audience that he was no "Chartist, Protectionist, Socialist, Communist," which was perfectly true, but a "mere collector of facts."⁷⁴ With a team of assistants and a few cabmen more or less on retainer, he plunged into the houses with "crazy wooden galleries . . . with holes from which to look upon the slime beneath; windows, broken and patched, with poles thrust out, on which to dry the linen that is never there; rooms so small, so filthy, so confined, that the air would seem to be too tainted even for the dirt and squalor which they shelter."⁷⁵

Mayhew found that London's working population was by no means a single monolithic class but a mosaic of distinct and highly specialized groups.⁷⁶ He ignored the city's single biggest occupation—150,000 domestic servants—whose numbers demonstrated how large the rich loomed in the city's economy. Nor did he take an interest in the 80,000 or so construction workers employed in building railroads, bridges, roads, sewers, and so on. Instead Mayhew concentrated on a handful of manufacturing trades. As the historian Gareth Stedman Jones explains, London's labor market was a marriage of extremes. On the one hand, the city attracted highly skilled artisans who catered to the wealthy and who earned one-fourth to one-third more than in other towns, as much as the clerks and shopkeepers who comprised the "lower" middle class. On the other hand, it thrived on an uninterrupted influx of unskilled labor. Laborers also earned higher wages than their counterparts in the provinces, but their living conditions were apt to be worse because of the overcrowded, decrepit housing in areas like Whitechapel, Stepney, Poplar, Bethnal Green, and Southwark, which had been exhaustively documented by parliamentary commissions of the 1840s. Clerks, salespeople, and other white-collar workers could afford the new omnibuses or trains and were escaping to the fast-growing suburbs. Unskilled workers had no choice but to stay within walking distance of their places of employment.

Competition from provincial towns and other countries was a constant source of pressure to find ways to save on labor costs. The system of "sweating" or piecework, often performed in

the worker's own lodging, was tailor-made to keep industries such as dressmaking, tailoring, and shoe manufacturing that would otherwise have migrated out of London on account of its high rents, overheads, and wages. Thus, Stedman Jones concludes, London's poverty, with its sweatshops, overcrowding, chronic unemployment, and reliance on charity, was, in fact, a by-product of London's wealth. The city's rapid growth led to rising land prices, high overheads, and high wages. High wages attracted more waves of unskilled newcomers but also created constant pressure on employers to find ways to replace more expensive labor with cheap labor.

London's needlewomen epitomized the phenomenon, and they were the subjects of Mayhew's most sensational stories. "Never in all history was such a sight seen, or such tales heard," he promised.⁷⁷ Using census figures, Mayhew calculated that there were 35,000 needlewomen in London, 21,000 of whom worked in "respectable" dressmaking establishments that ranged from the bespoke to those that catered to the lower middle class. The other 14,000, he wrote, worked in the "dishonorable" or sweated sector.⁷⁸ Mayhew contended that piecework rates "of the needlewomen generally are so far below subsistence point, that, in order to support life, it is almost a physical necessity that they must either steal, pawn, or prostitute themselves."⁷⁹

On this occasion, Mayhew was more impresario than observer. In November, with the help of a minister, he organized "a meeting of needlewomen forced to take to the streets." He promised strict privacy of the assembly. Men were barred. Two stenographers took verbatim notes. Under dimmed lights, twenty-five women were given tickets of admission. They mounted the stage and were encouraged to share their sorrows and sufferings. The minister exhorted them to speak freely. To Mayhew's amazement, they did:

The story which follows is perhaps one of the most tragic and touching romances ever read. I must confess that to myself the mental and bodily agony of the poor Magdalene who related it was quite overpowering. She was a tall, fine-grown girl, with remarkably regular features. She told her tale with her face hidden in her hands, and sobbing so loud that it was with difficulty I could catch her words. As she held her hands before her eyes I could see the tears oozing between her fingers. Indeed I never remember to have witnessed such intense grief.⁸⁰

Mayhew's account in the *Morning Chronicle* confirmed Thomas Carlyle's worst fears about modern industrial society, inspiring a choleric rant against economists:

Supply-and-demand, Leave-it-alone, Voluntary Principle, Time will mend it; till British industrial existence seems fast becoming one huge poison-swamp of reeking pestilence physical and moral; a hideous living Golgotha of souls and bodies buried alive; such a Curtius' gulf, communicating with the Nether Deep, as the Sun never saw till now. These scenes, which the *Morning Chronicle* is bringing home to all minds of men, thanks to it for a service such as Newspapers have seldom done—ought to excite unspeakable reflections in every mind.⁸¹

Among these unspeakable reflections was the image of a volcano on the verge of eruption. "Do you devour those marvelous revelations of the inferno of misery, of wretchedness, that is smoldering under our feet?" Douglas Jerrold, then editor of *Punch* and Mayhew's father-in-law, asked a friend. "To read of the sufferings of one class, and the avarice, the tyranny, the pocket cannibalism of the others, makes one almost wonder that the world should go on."⁸²

Mayhew's series in the *Morning Chronicle*, "Labour and the Poor," ran for the entire year of 1850. When about half of the articles had run, he revealed his larger ultimate aim. He wanted to invent, he confessed, "a new Political Economy, one that will take some little notice of the claims of labour." He justified his ambition by suggesting that an economics that did "justice as well to the workman as to the employer, stands foremost among the desiderata, or the things wanted, in the present age."⁸³

Carlyle's friend John Stuart Mill had given precisely the same reason for embarking on his *Principles of Political Economy*, published in 1848, only two years earlier, and already the most-read tract on economics since Adam Smith's *The Wealth of Nations*.

"Claims of Labor have become the question of the day," Mill wrote during the Irish potato famine in 1845, when he conceived the idea for the book.⁸⁴ At the time, the thirty-nine-year-old Mill had long been in love with Harriet Taylor, an unhappily married intellectual whom Carlyle described as "pale . . . and passionate and sad-looking" and a "living Romance heroine."⁸⁵ As Mill's frustration over Harriet's husband's refusal to grant her a divorce grew, so did his sympathy with her Socialist ideals.

In taking up political economy, Mill hoped to overcome Carlyle's objection that the discipline was "dreary, stolid, dismal, without hope for this world or the next"⁸⁶ and Taylor's that it was biased against the working classes. Agreeing with Dickens, Mill saw a particular need to "avoid the hard, abstract mode of treating such questions which has brought discredit upon political economists." He blamed them for enabling "those who are in the wrong to claim, & generally to receive, exclusive credit for high & benevolent feeling."⁸⁷

Mill no doubt had in mind David Ricardo, the brilliant Jewish stockbroker and politician who took up economics as a third career at age thirty-seven. Between 1809 and his untimely death in 1823, Ricardo not only recast the brilliant but often loosely expressed ideas of Adam Smith as an internally consistent, precisely defined set of mathematical principles but also proposed a remarkable number of original ideas concerning the benefits of trade for poor as well as rich nations and the fact that countries prosper most when they specialize. Nonetheless, many potential readers of his *On the Principles of Political Economy and Taxation* were as repelled by Ricardo's tendency to convey his ideas in abstract terms as by his dour conclusions. His iron law of wages—stating that wages may go up or down based on short-run fluctuations in supply and demand but always tend toward subsistence—incorporated Malthus's law of population and ruled out any meaningful gains in real wages.⁸⁸

Mill noted that Ricardo, Smith, and Malthus were all vocal champions of individual political and economic rights, opponents of slavery, and foes of protectionism, monopolies, and landowner privileges. He himself favored unions, universal suffrage, and women's property rights. In response to the economic crisis and social strife of the Hungry Forties, he advocated the repeal of the 50 percent tax on imported grain. The typical laborer spent at least one-third of his meager pay on feeding himself and his family. Mill correctly predicted that once the tax on imports was abolished food prices would decline and real wages would rise. Yet even he remained profoundly pessimistic about the scope of improvements in the lives of workers. Like Carlyle, he was convinced that the repeal of the Corn Laws would only buy time, as the invention of the railroad, the opening up of the North American continent, and the discovery of gold in California had. Such developments, while beneficial, could not repeal the immutable laws by which the world was governed.

Malthus's law of population and Ricardo's iron law of wages and law of diminishing returns—the notion that using more and more labor to farm an acre would produce less and less extra output—all dictated that population would outrun resources and that the nation's wealth could be enlarged only at the expense of the poor, who were doomed to spend "the great gifts of science as rapidly as . . . [they] got them in a mere insensate multiplication of the common life."⁸⁹ Government could do no more than create conditions in which enlightened self-interest and laws of supply and demand could work efficiently.

For Mill, economies are governed by natural laws, which couldn't be changed by human will, any more than laws of gravity can. "Happily," Mill wrote as he was finishing *Principles* in 1848, "there is nothing in the laws of Value which remains for the present or any future writer to clear up; the theory of the subject is complete."⁹⁰

Henry Mayhew, for one, refused to accept this conclusion. By his lights, Mill had failed in his attempt to turn political economy into a “gay science,” that is, a science capable of increasing the sum of human happiness, freedom, or control over circumstances.⁹¹ The fact that Mill had not jettisoned the iron law of wages was all the more reason for trying again. Ultimately, Mayhew did not succeed in mounting a challenge to the classical wage doctrine, and neither did anyone else of his generation. Still, his landmark series on London labor became the unofficial Baedeker for a younger generation of “social investigators” who were inspired by his reporting and shared his desire to learn how much improvement was possible without overturning the social order.

In August 1849, less than two years after Karl Marx had arrived in London amid a cholera epidemic, the whole world seemed to be descending upon his sanctuary to see the Great Exhibition. The first world’s fair was the brainchild of another German émigré, Queen Victoria’s husband, Prince Albert, but Marx, who was by then living with his wife, Jenny, their three young children, and their housekeeper in two dingy rooms over a shop in Soho, wanted nothing to do with it. He fled to seat G7 in the high-domed reading room of the British Museum with its cathedral-like gloom and refreshing quiet. Ignoring breathless newspaper accounts about the construction of the Crystal Palace in Hyde Park, Marx filled notebook after notebook with quotations, formulas, and disparaging comments as he pored over the works of the English economists Malthus, Ricardo, and James Mill, the father of John Stuart Mill. Let the philistines pray in the bourgeois Pantheon, he told himself. He would have no truck with false idols.

In May 1851, Karl Marx was no longer the dreamy young university student who spent days holed up in his dressing gown writing sonnets to a baron’s daughter, or the louche journalist who drank all night in Paris cafés. In the ten years since he had obtained his mail-order doctorate from the University of Jena, he had squandered a surprise inheritance of 6,000 francs from a distant relative. He had started three radical journals, two of which had folded after a single issue. He had never held a job for more than a few months. While his erstwhile protégé, Engels, had produced a best seller, his own magnum opus remained unwritten. He had published, but mostly long-winded polemics against other Socialists. At thirty-two, he was just another unemployed émigré, the head of a large and growing family, forced to beg and borrow from friends. Luckily for him, his guardian angel, Engels, had promised to pursue a career at his family’s firm expressly so that Marx could focus on his book full-time.

Meanwhile, as heads of state and other dignitaries swooped into town, Scotland Yard was keeping a close eye on radicals. Judging by a report from a Prussian government spy, the main threat posed by Marx was to Mrs. Beeton’s standards of housekeeping:

Marx lives in one of the worst, therefore one of the cheapest quarters of London. He occupies two rooms. The one looking out on the streets is the salon, and the bedroom is at the back. In the whole apartment there is not one clean and solid piece of furniture. Everything is broken, tattered and torn, with a half inch of dust over everything and the greatest disorder everywhere. In the middle of the salon there is a large old fashioned table covered with an oil cloth, and on it lie manuscripts, books and newspapers as well as the children’s toys, the rags and tatters of his wife’s sewing basket, several cups with broken ribs, knives, forks, lamps, an inkpot, tumblers, Dutch clay pipes, tobacco ash—in a word everything is topsy-turvy and all on the same table. A seller of second hand goods would be ashamed to give away such a remarkable collection of odds and ends.⁹²

The Exhibition season represented a new nadir in Marx’s affairs. Though he adored his wife, he had carelessly gotten Helen Demuth, her personal maid and the family housekeeper, pregnant. Jenny, who was pregnant as well, was beside herself. Three months after she gave birth to a sickly girl, the family’s housekeeper delivered a bouncing baby boy. To quash the “unspeakable infamies” about the affair already circulating around gossipy émigré circles, Marx had his newborn son whisked off to foster parents in the East End, never to see him again. “The tactlessness of some individuals

in this respect is colossal,” he complained to a friend.⁹³ The boy’s mother stayed behind to care for the Marx family as before. With home more unbearable than ever, Marx hurried to seat number G7 every morning and stayed until closing.

By the time the Great Exhibition opened on May Day of 1851, Marx had already begun to doubt that the modern Rome would be overthrown by her own subjects. Instead of Chartists storming Buckingham Palace, four million British citizens and tens of thousands of foreigners invaded Hyde Park to attend the first world’s fair. The human wave helped launch Thomas Cook in the tour business and brought people of all backgrounds together. “Never before in England had there been so free and general a mixture of classes as under that roof,” crowed one of the many accounts of the fair published at the time.⁹⁴ For Marx, the fair resembled the games Roman rulers staged to keep the mob entranced. “England seems to be the rock which breaks the revolutionary waves,” he had written in an earlier column for the *Neue Rheinische Zeitung*. “Every social upheaval in France . . . is bound to be thwarted by the English bourgeoisie, by Great Britain’s industrial and commercial domination of the world.”⁹⁵ The Exhibition was meant to encourage commercial competition, which Prince Albert and some of its other sponsors hoped would foster peace. Marx had prayed for war: “Only a world war can break old England . . . and bring the proletariat to power.”⁹⁶ The worse things got, he reasoned, the better the odds of revolution.

Still, he was not willing to totally discount the possibility that “the great advance in production since 1848” might lead to a new and more deadly crisis. Dismissing the Exhibition as “commodity fetishism,” he predicted the “imminent” collapse of the bourgeois order.⁹⁷ As he and Engels had written in their Manifesto: “What the bourgeoisie therefore produces, above all, are its own grave-diggers.”⁹⁸

Racing against time so as not to be overtaken by the “inevitable” revolution—if not in England, then on the Continent—Marx began working furiously on his own book of Revelation, a critique of “what Englishmen call ‘The Principles of Political Economy.’”⁹⁹ Marx spent most days scouring the reading room at the British Museum for material for his great work. To the contemporary questions “How much improvement in living standards was possible under the modern system of private property and competition?” and “Could it endure?” Marx knew the answers had to be negative. His challenge now was to prove it.

When he took up economics in 1844, Marx did not set out to show that life under capitalism was awful. A decade of exposés, parliamentary commissions, and Socialist tracts, including Engels’s, had already accomplished that. The last thing Marx wanted was to condemn capitalism on moral (that is to say Christian) grounds, as utopian Socialists such as Pierre-Joseph Proudhon, who claimed that “private property is theft,” had done. Marx had no intention of converting capitalists as his favorite novelist, Dickens, dreamed of doing with his Christmas Carol. In any case, he had long repudiated the notion of any God-given morality and insisted that man could make up his own rules.

The point of his great work was to prove “with mathematical certainty” that the system of private property and free competition couldn’t work and hence that “the revolution must come.” He wished to reveal “the law of motion of modern society.” In doing so, he would expose the doctrines of Smith, Malthus, Ricardo, and Mill as a false religion, just as radical German religion scholars had exposed biblical texts as forgeries and fakes. His subtitle, he decided, would be *A Critique of Political Economy*.¹⁰⁰

Marx’s law of motion did not spring Athena-like from his powerful, brooding mind, as his doctor friend Louis Kugelmann supposed when he sent Marx a marble bust of Zeus as a Christmas present. It was Engels, the journalist, who supplied Marx with the rough draft of his economic theory. Marx’s real challenge was to show that the theory was logically consistent as well as empirically plausible.

In the Manifesto, Marx and Engels had offered two reasons for capitalism's dysfunction. First, the more wealth that was created, the more miserable the masses would become: "In proportion as capital accumulates, the lot of the laborer must grow worse." Second, the more wealth that was created, "the more extensive and more destructive" the financial and commercial crises that broke out periodically would become.¹⁰¹

While the Manifesto referred to "ever-decreasing wages" and "ever-increasing burden of toil" as matters of historical fact, in *Das Kapital*, Marx argued that the "law of capitalist accumulation" requires wages to fall, the length and intensity of the working day to rise, working conditions to deteriorate, the quality of goods consumed by workers to decline, and the average life span of workers to fall. He did not, however, fall back on the second of his arguments about ever-worsening depressions.¹⁰²

In *Das Kapital*, Marx specifically rejected Malthus's law of population, which, as it happens, is also a theory of how the level of wages is determined. In formulating his law, Malthus had assumed that pay was strictly a function of the size of the labor force. More workers meant more competition among them, hence lower wages. Fewer workers meant the opposite. Engels had already identified the primary objection to Malthus in his 1844 "Outlines of a Critique of Political Economy," namely that poverty could afflict any society, including a Socialist one.

Marx's edifice rests on the assumption that all value, including surplus value, is created by the hours worked by labor. "There is not a single atom of its value that does not owe its existence to unpaid labor." In *Das Kapital*, he cites Mill to support his claim:

Tools and materials, like other things, have originally cost nothing but labour . . . The labour employed in making the tools and materials being added to the labour afterwards employed in working up the materials by aid of the tools, the sum total gives the whole of the labour employed in the production of the completed commodity . . . To replace capital, is to replace nothing but the wages of the labour employed.¹⁰³

Mark Blaug, a historian of economic thought, points out that if only labor hours create value, then installing more efficient machinery, reorganizing the sales force, hiring a more effective CEO, or adopting a better marketing strategy—rather than hiring more production workers—necessarily causes profits to fall. In Marx's scheme, therefore, the only way to keep profits from shrinking is to exploit labor by forcing workers to work more hours without compensating them. As Henry Mayhew detailed in his *Morning Chronicle* series, there are many ways of cutting the real wage. It is crucial for Marx's argument, writes Blaug, that trade unions and governments—"organizations of the exploiting class"—can't reverse the process.¹⁰⁴

A surprising number of scholars deny that Marx ever claimed that wages would decline over time or that they were tethered to some biological minimum. But they are overlooking what Marx said in so many words on numerous occasions. The inability of workers to earn more when they produce more—or more-valuable products—is precisely what made capitalism unfit to survive.

By asserting that labor was the source of all value, Marx claimed that the owner's income—profit, interest, or managerial salary—was unearned. He did not argue that workers did not need capital—factories, machines, tools, proprietary technology, and the like—to produce the product. Rather he argued that the capital the owner made available was nothing more than the product of past labor. But the owner of any resource—whether a horse, a house, or cash—could use it herself. Arguing, as Marx does, that waiting until tomorrow to consume what could be consumed today, risking one's resources, or managing and organizing a business have no value and therefore deserve no compensation is the same as saying that output can be produced without saving, waiting, or taking risks. This is a secular version of the old Christian argument against interest.

The trouble is, as Blaug points out, that this is just another way of saying that only labor adds value to output—the very statement that Marx set out to prove in the first place—and not an independent proof.

Marx compiled an impressive array of evidence, from Blue Books, newspapers, the Economist, and elsewhere, to show that the living standards of workers were wretched and working conditions horrendous during the second half of the eighteenth and first half of the nineteenth centuries. But he did not succeed in showing either that average wages or living standards were declining in the 1850s and 1860s, when he was writing *Das Kapital*, or, more to the point, that there was some reason for thinking that they would necessarily decline.

Had Marx stepped outside and taken a good look around like Henry Mayhew, or engaged brilliant contemporaries such as John Stuart Mill who were grappling with the same questions, he might have seen that the world wasn't working the way he and Engels had predicted. The middle class was growing, not disappearing. Financial panics and industrial slumps weren't getting worse.

When the Great Exhibition of 1862 closed, the “great festival” refused to disband. A businessman bought the Crystal Palace, had it disassembled and carted to Sydenham in South London, and rebuilt it on an even more monstrous scale. Much to Marx's disgust, the new Crystal Palace opened as a kind of Victorian Disney World. Worse, the economy boomed. As Marx had to admit, “It is as if this period had found Fortunatas' purse.” There had been a “titanic advance of production” even faster in the second ten years than in the first:

No period of modern society is so favorable for the study of capitalist accumulation as the period of the last 20 years . . . But of all countries England again furnishes the classical example, because it holds the foremost place in the world-market, because capitalist production is here alone completely developed, and lastly, because the introduction of the Free-trade millennium since 1846 has cut off the last retreat of vulgar economy.¹⁰⁵

More fatal to Marx's theory, real wages weren't falling as capital accumulated in the form of factories, buildings, railroads, and bridges. In contrast to the decades before the 1840s, when increases in real wages were largely limited to skilled workers, and the effect on living standards was offset by more unemployment, longer hours, and bigger families, the gains in the 1850s and 1860s were dramatic, unambiguous, and widely discussed at the time. The Victorian statistician Robert Giffen referred to the “undoubted” nature of the “increase of material prosperity” from the mid-1840s through the mid-1870s.¹⁰⁶ Robert Dudley Baxter, a solicitor and statistician, depicted the distribution of income in 1867 with an extinct volcano that rose twelve thousand feet above sea level, “with its long low base of laboring population, with its uplands of the middle classes, and with the towering peaks and summits of those with princely incomes.”¹⁰⁷ The Peak of Tenerife struck Baxter as a perfect metaphor for describing who got what. Still, his data show that by 1867, labor's share of national income was rising.

Scholars have since corroborated these contemporary observations. As early as 1963, Eric Hobsbawm, the Marxist economic historian, admitted that “the debate is entirely about what happened in the period which ended by common consent sometime between 1842 and 1845.”¹⁰⁸ More recently, Charles Feinstein, an economic historian on the “pessimist” side of a long-running debate on the effects of the industrial revolution, concluded that real wages “at last started an ascent to a new height” in the 1840s.¹⁰⁹

Marx never did step outside. He never bothered to learn English well.¹¹⁰ His world was restricted to a small circle of like-minded émigrés. His contacts with English working-class leaders were superficial. He never exposed his ideas to people who could challenge him on equal terms. His interaction with economists—“commercial travelers for the great firm of Free-trade”¹¹¹ as he called them—whose ideas he wished to demolish, was nonexistent. He never met or conducted a scientific correspondence with the geniuses—John Stuart Mill, the philosopher; Charles Darwin, the biologist;

Herbert Spencer, the sociologist; George Eliot, the writer; among them—who lived (and debated) a mile or two from him. Astonishingly for the best friend of a factory owner and the author of some of the most impassioned descriptions of mechanization's horrors, Marx never visited a single English factory—or any factory at all until he went on a guided tour of a porcelain manufactory near Carlsbad, where he took the waters toward the end of his life.¹¹²

At Engels's insistence, in 1859 Marx reluctantly published a preview of his unfinished magnum opus. The thin volume, called *A Contribution to the Critique of Political Economy*, was greeted with surprise, embarrassment, and virtually no reviews except ones that Engels wrote anonymously at Marx's behest.¹¹³

Marx had frequently justified his decision to remain in England—and even to seek British citizenship—by pointing to the advantages of London, capital of the modern world, for studying the evolution of society and glimpsing its future. But Isaiah Berlin, himself an émigré, wrote that “he might just as well have spent his exile in Madagascar, provided that a regular supply of books, journals and government reports could have been secured.” By 1851, when he started to work seriously on the critique that he boasted would demolish English economics, Marx's ideas and attitudes were “set and hardly changed at all” over the next fifteen or more years.¹¹⁴

When Marx took up the idea of “providing a complete account and explanation of the rise and imminent fall of the capitalist system,”¹¹⁵ his eyesight was so bad that he was forced to hold books and newspapers a few inches from his face. One wonders what effect his myopia had on his ideas. Democritus, the subject of his doctoral dissertation, was said to have blinded himself deliberately. In some versions of his legend, the Greek philosopher is motivated by a desire to avoid being tempted by beautiful women. In others, he wants to shut out the messy, confusing, shifting world of facts so that he can contemplate the images and ideas in his own head without these bothersome distractions.

One might think that his family's climb from renters of rooms over a store to rate-paying owners of a London town house would have made Marx uneasy about his theory. In the twenty years since he had set out to prove that capitalism could not work, Marx himself had evolved from bohemian to bourgeois. He no longer favored the immediate abolition of the rights of inheritance in the Communist program.¹¹⁶ The Marxes used one of several legacies to trade their “old hole in Soho” for an “attractive house” in one of the new middle-class developments near Hampstead Heath. It was so new that they found there was no paved road, no gas street lights, and no omnibuses; only heaps of rubbish, piles of rock, and mud.

Marx often said that there was something rotten about a system that increased wealth without reducing misery, yet it did not seem to strike him that misery can sometimes increase with wealth. He assumed that London's slums, which were becoming more Dickensian with each passing decade, were proof that the economy couldn't deliver a decent standard of living for ordinary people. On the contrary, explains Gareth Stedman Jones, the housing crisis was an unwelcome by-product of London's helter-skelter growth, growing prosperity, and voracious demand for unskilled labor. The key fact is that the mid-Victorian building frenzy involved an orgy of demolition. Between 1830 and 1870, thousands of acres in central London were cleared, mostly in the poor districts where land was cheap, to expand the London docks, lay railway lines, build New Oxford Street, dig the sewers and water pipes, and, in the 1860s, excavate the first stretches of the London tube. So, just as tens of thousands of migrants were flocking to the city in search of work, the supply of housing within walking distance of London's industrial areas was plummeting. As a result, workers were crowded into ever more dilapidated, ever tighter, ever more expensive quarters. Once the demolition stopped and white-collar workers began to commute from the suburbs by rail, the housing crisis began to ease.

The Exhibition season of 1862 coincided with another low point in Marx's financial affairs. Horace Greeley, the publisher of the *New York Tribune*, had dropped his column, which, though entirely ghostwritten by Engels, had supplied Marx with extra cash. At one point, his money woes

became so dire that he applied for a job as a railway clerk, only to be rejected for “bad handwriting” and not speaking English, and briefly considered immigrating to America. Luckily, he was like an oyster that needed a bit of grit to make his pearls. With his mind on money, he was soon writing a long essay on economics and filling up notebooks again, complaining all the while that he felt like “a machine condemned to devour books and then throw them, in a changed form, on the dunghill of history.”¹¹⁷ He also decided on a title for his great work: *Das Kapital*.¹¹⁸

The hoopla surrounding the Exhibition continued to depress Marx. He would have sympathized with Fyodor Dostoyevsky’s reaction; the Russian novelist called the glass palace “a Biblical sight, something to do with Babylon, some prophecy out of the Apocalypse being fulfilled before your very eyes.”¹¹⁹ Yet within a year or two, Marx’s fortunes turned up again. Thanks to several unexpected legacies as well as a £375 annual subsidy from Engels, he was able to move his family to an even bigger and more imposing town house and was soon spending £500 to £600 a year, something that more than 98 percent of English families could not afford to do.¹²⁰

Marx had almost forgotten about the Day of Judgment when it dawned.

The launch of the eleven-thousand-ton warship the HMS Northumberland on April 17, 1866, ought to have been a day of pride, a reminder of Great Britain’s industrial and commercial domination of the world. Instead it was a fiasco. The Northumberland had been on the slips in the Millwall Iron Works yard for nearly five years. On the day of the launch, her unusually heavy weight caused her to slip off the railing—a portent, people understood later, of the precarious condition of the shipping firms and shipbuilders.

Less than a month later, on Thursday afternoon, May 10, in the first week of the London boating season, a frightful rumor swirled through the city. The Rolls-Royce of merchant banks, Overend, Gurney & Company, considered by the average citizen to be as solid as the Royal Mint, had failed. “It is impossible to describe the terror and anxiety which took possession of men’s minds for the remainder of that and the whole of the succeeding day,” wrote the London Times’s financial correspondent. “No man felt safe.” By ten o’clock the following morning, a horde of “struggling and half frantic creditors” of both sexes and seemingly all stations of life invaded the financial district. “At noon the tumult became a rout. The doors of the most respectable Banking Houses were besieged . . . and throngs heaving and tumbling about Lombard Street made that narrow thoroughfare impassable.”¹²¹

The New York Times bureau chief dashed off a telegram to his editors to convey that this was “a more fearful panic than has been known in the British metropolis within the memory of man.” Before an extra battalion of constables could be called out to control the crowd and before the Chancellor of the Exchequer could authorize the suspension of the Bank Charter Act, the Bank of England had lost 93 percent of its cash reserves, the British money market was frozen solid, and scores of banks and businesses that lived on credit were facing ruin. “Englishmen have been running mad on speculation . . . The day of reckoning has arrived and blank panic and blue dismay sit on the faces of all our bankers, capitalists and merchants.”¹²²

Among the first victims of the panic were the owners of the Millwall shipyard. The boom in shipbuilding, fueled by a worldwide arms race and trade, had more than doubled employment in London shipyards between 1861 and 1865.¹²³ “The magnates of this trade had not only over-produced beyond all measure during the overtrading time, but they had, besides, engaged in enormous contracts on the speculation that credit would be forthcoming,” Marx gloated.¹²⁴

By the time of the Overend collapse, new orders were drying up. In fact, Overend may have been pushed over the edge because “they covered the seas with their ships” and “were incurring huge losses on their fleet of steamships.” Other casualties included the legendary railway contractors Peto and Betts. True, the most immediate victims of the panic were gullible investors and “countless swindling companies” that had sprung up to take advantage of cheap money. But the crisis of confidence forced

the Bank of England to raise its benchmark interest rate from 6 percent to a crushing 10 percent, “the classic panic rate,”¹²⁵ which persisted through the summer. A play called *One Hundred Thousand Pounds* closed after a brief run. The *Times* didn’t even bother to review it. The boom was over.

When news of Black Friday reached Marx via his afternoon paper, he was in his study in North London pondering a financial crisis closer to home. One *Modena Villas*, where he and his family had recently moved, was a pretentious affair of the kind sprouting up all over London’s periphery, far too pricey for an unemployed journalist who had long since stopped accepting assignments in order to finish his book. Marx had rationalized the extravagance as necessary for his teenage daughters “to establish themselves socially.” Now, alas, he was broke again and his rent was overdue. So, unfortunately, was *Das Kapital*.

For nearly fifteen years, Marx had been assuring his best friend and patron that his grandiose “*Critique of Political Economy*” was “virtually finished, that he was ready to “reveal the law of motion of modern society,” that he would drive a stake through the heart of English “political economy.” Now Engels, who had kept his nose to the grindstone in Manchester for fifteen years to support him, was becoming restive.

In truth, the glitter of England’s prosperity had cast a pall on Marx’s project. He had written very little since 1863. A series of windfalls had purchased temporary spells of independence, but now he was back on Engels’s dole, and, for the first time, the angelic Engels was showing signs of impatience. Marx had been putting him off with graphic descriptions of a series of afflictions worthy of Job: rheumatism, liver trouble, influenza, toothache, impudent creditors, an outbreak of boils of truly biblical proportions—the list went on and on. In April 1866, Marx confessed, “Being unwell I am unable to write.” On the day after Christmas, he complained of “not writing at all for so long.” Around Easter, writing from the seaside in Margate, he admitted to having “lived for my health’s sake alone” for “more than a month.”¹²⁶

Engels suspected, accurately as it turns out, that the real source of Marx’s troubles was “dragging that damned book around” for too long: “I hope you are happily over your rheumatism and faceache and are once more sitting diligently over the book,” he wrote on May 1. “How is it coming on and when will the first volume be ready?”¹²⁷ Since *Das Kapital* was not coming on, Marx retreated into a sulky silence.

Like a shot of adrenaline, Black Friday had a galvanizing effect that no amount of nagging by Engels had ever achieved. Within days, the prophet was back at his desk writing furiously. In early July, he was able to report to Engels, “I have had my nose properly to the grindstone again over the past two weeks,” and to predict that he would be able to deliver the tardy manuscript “by the end of August.”¹²⁸

Who can blame the author of an apocalyptic text holding back until the time was right? By the time Marx was composing it, his melodramatic prophecy, “The death knell of capitalist private property sounds. The expropriators will be expropriated,” sounded almost plausible. Yet when he composed his famous penultimate chapter on “The General Law of Capitalist Accumulation,” he felt forced to fudge in order to make his case that the poor had gotten poorer. Quoting Gladstone on the “astonishing” and “incredible” surge in taxable income between 1853 and 1863, Marx has the liberal prime minister referring to “this intoxicating augmentation of wealth and power . . . entirely confined to classes of property.”¹²⁹ The text of the speech, printed in the *Times* of London, shows that Gladstone actually said the opposite:

“I should look with some degree of pain, and with much apprehension, upon this extraordinary and almost intoxicating growth, if it were my belief that it is confined to the class of persons who may be described as in easy circumstances,” he said, adding that, thanks to the rapid growth of untaxed income, “the average condition of the British laborer, we have the happiness to know, has improved

during the last 20 years in a degree which we know to be extraordinary, and which we may almost pronounce to be unexampled in the history of any country and of any age.”¹³⁰

Marx’s prediction that his manuscript would be finished by the end of the summer proved wildly optimistic, but fifteen months after Black Friday, in August 1867, he was able to report to Engels that he had put the final set of galleys in the mail to the German publisher. In his note, he alluded in passing to a famous short story by the French novelist Honoré de Balzac. An artist believes a painting to be a masterpiece because he has been perfecting it for years. After unveiling the painting he looks at it for a moment before staggering back. “‘Nothing! Nothing! After ten years of work.’ He sat down and wept.”¹³¹ Alas, as Marx feared, “The Unknown Masterpiece” was an apt metaphor for his economic theory. His “mathematical proof” was greeted by an eerie silence. And in the worst economic crisis of the modern age, the great twentieth-century economist John Maynard Keynes would dismiss *Das Kapital* as “an obsolete economic textbook which I know to be not only scientifically erroneous but without interest or application to the modern world.”¹³²

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