

ISSUE 3



Were the Nineteenth-Century Big Businessmen “Robber Barons”?

YES: Howard Zinn, from “Robber Barons and Rebels,” in *A People’s History of the United States* (HarperCollins, 1999)

NO: John S. Gordon, from “Was There Ever Such a Business!” in *An Empire of Wealth: The Epic History of American Economic Power* (Harper Perennial, 2004)

ISSUE SUMMARY

YES: According to Howard Zinn, the new industrialists such as John D. Rockefeller, Andrew Carnegie, and J. P. Morgan adopted business practices that encouraged monopolies and used the powers of the government to control the masses from rebellion.

NO: John S. Gordon argues that the nineteenth-century men of big business such as John D. Rockefeller and Andrew Carnegie developed through the oil and steel industries consumer products that improved the lifestyle of average Americans.

Between 1860 and 1914, the United States was transformed from a country of farms, small towns, and modest manufacturing concerns to a modern nation dominated by large cities and factories. During those years, the population tripled, and the nation experienced astounding urban growth. A new proletariat emerged to provide the necessary labor for the country’s developing factory system. Between the Civil War and World War I, the value of manufactured goods in the United States increased 12-fold, and the capital invested in industrial pursuits multiplied 22 times. In addition, the application of new machinery and scientific methods to agriculture produced abundant yields of wheat, corn, and other foodstuffs, despite the decline in the number of farmers.

Why did this industrial revolution occur in the United States during the last quarter of the nineteenth century? What factors contributed to the rapid pace of American industrialization? In answering these questions, historians often point to the first half of the 1800s and the significance of the “transportation revolution,” which produced better roads, canals, and railroads to move people and goods more efficiently and cheaply from one point to another.

Technological improvements such as the Bessemer process, refrigeration, electricity, and the telephone also made their mark in the nation's "machine age." Government cooperation with business, large-scale immigration from Europe and Asia, and the availability of foreign capital for industrial investments provided still other underpinnings for this industrial growth. Finally, American industrialization depended upon a number of individuals in the United States who were willing to organize and finance the nation's industrial base for the sake of anticipated profits. These, of course, were the entrepreneurs.

Regardless of how American entrepreneurs are perceived, there is no doubt that they constituted a powerful elite and were responsible for defining the character of society in the Gilded Age. For many Americans, these businessmen represented the logical culmination of the country's attachment to laissez-faire economics and rugged individualism. In fact, it was not unusual at all for the nation's leading industrialists to be depicted as the real-life models for the "rags-to-riches" theme epitomized in the self-help novels of Horatio Alger.

Closer examination of the lives of most of these entrepreneurs, however, reveals the mythical dimensions of this American idea. Simply put, the typical business executive of the late nineteenth century did not rise up from humble circumstances, a product of the American rural tradition or the immigrant experience, as frequently claimed. Rather, most of these big businessmen were of Anglo-Saxon origin and reared in a city by middle-class parents. According to one survey, over half of the leaders had attended college at a time when even the pursuit of a high school education was considered unusual. In other words, instead of having to pull themselves up by their own bootstraps from the bottom of the social heap, these individuals usually started their climb to success at the middle of the ladder or higher.

American public attitudes have reflected a schizophrenic quality with regard to the activities of the industrial leaders of the late nineteenth century. Were these entrepreneurs "robber barons," who employed any means necessary to enrich themselves at the expense of their competitors? Or were they "captains of industry" whose shrewd and innovative leadership brought order out of industrial chaos and generated great fortunes that enriched the public welfare through the workings of various philanthropic agencies that these leaders established? Although the "robber barons" stereotype emerged as early as the 1870s, it probably gained its widest acceptance in the 1930s when, in the midst of the Great Depression, many critics were proclaiming the apparent failure of American capitalism. Since the depression, however, some historians, including Allan Nevins, Alfred D. Chandler, and Maury Klein, have sought to revise the negative assessments offered by earlier generations of scholars. In the hands of these business historians, the late nineteenth-century businessmen have become "industrial salesmen" who skillfully oversaw the process of raising the United States to a preeminent position among the nations of the world.

The following selections reveal the divergence of scholarly opinion as it applies to the nineteenth century entrepreneurs who came to epitomize both the success and excess of corporate capitalism in the United States.

Robber Barons And Rebels

In the year 1877, the signals were given for the rest of the century: the blacks would be put back; the strikes of white workers would not be tolerated; the industrial and political elites of North and South would take hold of the country and organize the greatest march of economic growth in human history. They would do it with the aid of, and at the expense of, black labor, white labor, Chinese labor, European immigrant labor, female labor, rewarding them differently by race, sex, national origin, and social class, in such a way as to create separate levels of oppression—a skillful terracing to stabilize the pyramid of wealth.

Between the Civil War and 1900, steam and electricity replaced human muscle, iron replaced wood, and steel replaced iron (before the Bessemer process, iron was hardened into steel at the rate of 3 to 5 tons a day; now the same amount could be processed in 15 minutes). Machines could now drive steel tools. Oil could lubricate machines and light homes, streets, factories. People and goods could move by railroad, propelled by steam along steel rails; by 1900 there were 193,000 miles of railroad. The telephone, the typewriter, and the adding machine speeded up the work of business.

Machines changed farming. Before the Civil War it took 61 hours of labor to produce an acre of wheat. By 1900, it took 3 hours, 19 minutes. Manufactured ice enabled the transport of food over long distances, and the industry of meatpacking was born.

Steam drove textile mill spindles; it drove sewing machines. It came from coal. Pneumatic drills now drilled deeper into the earth for coal. In 1860, 14 million tons of coal were mined; by 1884 it was 100 million tons. More coal meant more steel, because coal furnaces converted iron into steel; by 1880 a million tons of steel were being produced; by 1910, 25 million tons. By now electricity was beginning to replace steam. Electrical wire needed copper, of which 30,000 tons were produced in 1880; 500,000 tons by 1910.

To accomplish all this required ingenious inventors of new processes and new machines, clever organizers and administrators of the new corporations, a country rich with land and minerals, and a huge supply of human beings to do the back-breaking, unhealthful, and dangerous work. Immigrants would come from Europe and China, to make the new labor force. Farmers unable to buy the new machinery or pay the new railroad rates would move to the cities.

Between 1860 and 1914, New York grew from 850,000 to 4 million, Chicago from 110,000 to 2 million, Philadelphia from 650,000 to 1½ million.

In some cases the inventor himself became the organizer of businesses—like Thomas Edison, inventor of electrical devices. In other cases, the businessman compiled other people's inventions, like Gustavus Swift, a Chicago butcher who put together the ice-cooled railway car with the ice-cooled warehouse to make the first national meatpacking company in 1885. James Duke used a new cigarette-rolling machine that could roll, paste, and cut tubes of tobacco into 100,000 cigarettes a day; in 1890 he combined the four biggest cigarette producers to form the American Tobacco Company.

While some multimillionaires started in poverty, most did not. A study of the origins of 303 textile, railroad, and steel executives of the 1870s showed that 90 percent came from middle- or upper-class families. The Horatio Alger stories of "rags to riches" were true for a few men, but mostly a myth, and a useful myth for control.

Most of the fortune building was done legally, with the collaboration of the government and the courts. Sometimes the collaboration had to be paid for. Thomas Edison promised New Jersey politicians \$1,000 each in return for favorable legislation. Daniel Drew and Jay Gould spent \$1 million to bribe the New York legislature to legalize their issue of \$8 million in "watered stock" (stock not representing real value) on the Erie Railroad.

The first transcontinental railroad was built with blood, sweat, politics and thievery, out of the meeting of the Union Pacific and Central Pacific railroads. The Central Pacific started on the West Coast going east; it spent \$200,000 in Washington on bribes to get 9 million acres of free land and \$24 million in bonds, and paid \$79 million, an overpayment of \$36 million, to a construction company which really was its own. The construction was done by three thousand Irish and ten thousand Chinese, over a period of four years, working for one or two dollars a day.

The Union Pacific started in Nebraska going west. It had been given 12 million acres of free land and \$27 million in government bonds. It created the Credit Mobilier company and gave them \$94 million for construction when the actual cost was \$44 million. Shares were sold cheaply to Congressmen to prevent investigation. This was at the suggestion of Massachusetts Congressman Oakes Ames, a shovel manufacturer and director of Credit Mobilier, who said: "There is no difficulty in getting men to look after their own property." The Union Pacific used twenty thousand workers—war veterans and Irish immigrants, who laid 5 miles of track a day and died by the hundreds in the heat, the cold, and the battles with Indians opposing the invasion of their territory.

Both railroads used longer, twisting routes to get subsidies from towns they went through. In 1869, amid music and speeches, the two crooked lines met in Utah.

The wild fraud on the railroads led to more control of railroad finances by bankers, who wanted more stability—profit by law rather than by theft. By the 1890s, most of the country's railway mileage was concentrated in six huge systems. Four of these were completely or partially controlled by the House of Morgan, and two others by the bankers Kuhn, Loeb, and Company.

J. P. Morgan had started before the war, as the son of a banker who began selling stocks for the railroads for good commissions. During the Civil War he bought five thousand rifles for \$3.50 each from an army arsenal, and sold them to a general in the field for \$22 each. The rifles were defective and would shoot off the thumbs of the soldiers using them. A congressional committee noted this in the small print of an obscure report, but a federal judge upheld the deal as the fulfillment of a valid legal contract.

Morgan had escaped military service in the Civil War by paying \$300 to a substitute. So did John D. Rockefeller, Andrew Carnegie, Philip Armour, Jay Gould, and James Mellon. Mellon's father had written to him that "a man may be a patriot without risking his own life or sacrificing his health. There are plenty of lives less valuable."

It was the firm of Drexel, Morgan and Company that was given a U.S. government contract to float a bond issue of \$260 million. The government could have sold the bonds directly; it chose to pay the bankers \$5 million in commission.

On January 2, 1889, as Gustavus Myers reports:

... a circular marked "Private and Confidential" was issued by the three banking houses of Drexel, Morgan & Company, Brown Brothers & Company, and Kidder, Peabody & Company. The most painstaking care was exercised that this document should not find its way into the press or otherwise become public. . . . Why this fear? Because the circular was an invitation . . . to the great railroad magnates to assemble at Morgan's house, No. 219 Madison Avenue, there to form, in the phrase of the day, an iron-clad combination . . . a compact which would efface competition among certain railroads, and unite those interests in an agreement by which the people of the United States would be bled even more effectively than before.

There was a human cost to this exciting story of financial ingenuity. That year, 1889, records of the Interstate Commerce Commission showed that 22,000 railroad workers were killed or injured.

In 1895 the gold reserve of the United States was depleted, while twenty-six New York City banks had \$129 million in gold in their vaults. A syndicate of bankers headed by J. P. Morgan & Company, August Belmont & Company, the National City Bank, and others offered to give the government gold in exchange for bonds. President Grover Cleveland agreed. The bankers immediately resold the bonds at higher prices, making \$18 million profit.

A journalist wrote: "If a man wants to buy beef, he must go to the butcher. . . . If Mr. Cleveland wants much gold, he must go to the big banker."

While making his fortune, Morgan brought rationality and organization to the national economy. He kept the system stable. He said: "We do not want financial convulsions and have one thing one day and another thing another day." He linked railroads to one another, all of them to banks, banks to insurance companies. By 1900, he controlled 100,000 miles of railroad, half the country's mileage.

Three insurance companies dominated by the Morgan group had a billion dollars in assets. They had \$50 million a year to invest—money given by ordinary people for their insurance policies. Louis Brandeis, describing this in his book *Other People's Money* (before he became a Supreme Court justice), wrote: "They control the people through the people's own money."

John D. Rockefeller started as a bookkeeper in Cleveland, became a merchant, accumulated money, and decided that, in the new industry of oil, who controlled the oil refineries controlled the industry. He bought his first oil refinery in 1862, and by 1870 set up Standard Oil Company of Ohio, made secret agreements with railroads to ship his oil with them if they gave him rebates—discounts—on their prices, and thus drove competitors out of business.

One independent refiner said: "If we did not sell out. . . . we would be crushed out. . . . There was only one buyer on the market and we had to sell at their terms." Memos like this one passed among Standard Oil officials: "Wilkerson & Co. received car of oil Monday 13th. . . . Please turn another screw." A rival refinery in Buffalo was rocked by a small explosion arranged by Standard Oil officials with the refinery's chief mechanic.

The Standard Oil Company, by 1899, was a holding company which controlled the stock of many other companies. The capital was \$110 million, the profit was \$45 million a year, and John D. Rockefeller's fortune was estimated at \$200 million. Before long he would move into iron, copper, coal, shipping, and banking (Chase Manhattan Bank). Profits would be \$81 million a year, and the Rockefeller fortune would total two billion dollars.

Andrew Carnegie was a telegraph clerk at seventeen, then secretary to the head of the Pennsylvania Railroad, then a broker in Wall Street selling railroad bonds for huge commissions, and was soon a millionaire. He went to London in 1872, saw the new Bessemer method of producing steel, and returned to the United States to build a million-dollar steel plant. Foreign competition was kept out by a high tariff conveniently set by Congress, and by 1880 Carnegie was producing 10,000 tons of steel a month, making \$1½ million a year in profit. By 1900 he was making \$40 million a year, and that year, at a dinner party, he agreed to sell his steel company to J. P. Morgan. He scribbled the price on a note: \$492,000,000.

Morgan then formed the U.S. Steel Corporation, combining Carnegie's corporation with others. He sold stocks and bonds for \$1,300,000,000 (about 400 million more than the combined worth of the companies) and took a fee of 150 million for arranging the consolidation. How could dividends be paid to all those stockholders and bondholders? By making sure Congress passed tariffs keeping out foreign steel; by closing off competition and maintaining the price at \$28 a ton; and by working 200,000 men twelve hours a day for wages that barely kept their families alive.

And so it went, in industry after industry—shrewd, efficient businessmen building empires, choking out competition, maintaining high prices, keeping wages low, using government subsidies. These industries were the first beneficiaries of the "welfare state." By the turn of the century, American Telephone and telegraph had a monopoly of the nation's telephone system, International Harvester made 85 percent of all farm machinery, and in every other industry

resources became concentrated, controlled. The banks had interests in so many of these monopolies as to create an interlocking network of powerful corporation directors, each of whom sat on the boards of many other corporations. According to a Senate report of the early twentieth century, Morgan at his peak sat on the board of forty-eight corporations; Rockefeller, thirty-seven corporations.

Meanwhile, the government of the United States was behaving almost exactly as Karl Marx described a capitalist state: pretending neutrality to maintain order, but serving the interests of the rich. Not that the rich agreed among themselves; they had disputes over policies. But the purpose of the state was to settle upper-class disputes peacefully, control lower-class rebellion, and adopt policies that would further the long-range stability of the system. The arrangement between Democrats and Republicans to elect Rutherford Hayes in 1877 set the tone. Whether Democrats or Republicans won, national policy would not change in any important way.

When Grover Cleveland, a Democrat, ran for President in 1884, the general impression in the country was that he opposed the power of monopolies and corporations, and that the Republican party, whose candidate was James Blaine, stood for the wealthy. But when Cleveland defeated Blaine, Jay Gould wired him: "I feel . . . that the vast business interests of the country will be entirely safe in your hands." And he was right.

One of Cleveland's chief advisers was William Whitney, a millionaire and corporation lawyer, who married into the Standard Oil fortune and was appointed Secretary of the Navy by Cleveland. He immediately set about to create a "steel navy," buying the steel at artificially high prices from Carnegie's plants. Cleveland himself assured industrialists that his election should not frighten them: "No harm shall come to any business interest as the result of administrative policy so long as I am President . . . a transfer of executive control from one party to another does not mean any serious disturbance of existing conditions."

The presidential election itself had avoided real issues; there was no clear understanding of which interests would gain and which would lose if certain policies were adopted. It took the usual form of election campaigns, concealing the basic similarity of the parties by dwelling on personalities, gossip, trivialities. Henry Adams, an astute literary commentator on that era, wrote to a friend about the election:

We are here plunged in politics funnier than words can express. Very great issues are involved. . . . But the amusing thing is that no one talks about real interests. By common consent they agree to let these alone. We are afraid to discuss them. Instead of this the press is engaged in a most amusing dispute whether Mr. Cleveland had an illegitimate child and did or did not live with more than one mistress.

In 1887, with a huge surplus in the treasury, Cleveland vetoed a bill appropriating \$100,000 to give relief to Texas farmers to help them buy seed grain during a drought. He said: "Federal aid in such cases . . . encourages the expectation of paternal care on the part of the government and weakens the sturdiness of

our national character." But that same year, Cleveland used his gold surplus to pay off wealthy bondholders at \$28 above the \$100 value of each bond—a gift of \$45 million.

The chief reform of the Cleveland administration gives away the secret of reform legislation in America. The Interstate Commerce Act of 1887 was supposed to regulate the railroads on behalf of the consumers. But Richard Olney, a lawyer for the Boston & Maine and other railroads, and soon to be Cleveland's Attorney General, told railroad officials who complained about the Interstate Commerce Commission that it would not be wise to abolish the Commission "from a railroad point of view." He explained:

The Commission . . . is or can be made, of great use to the railroads. It satisfies the popular clamor for a government supervision of railroads, at the same time that that supervision is almost entirely nominal. . . . The part of wisdom is not to destroy the Commission, but to utilize it.

Cleveland himself, in his 1887 State of the Union message, had made a similar point, adding a warning: "Opportunity for safe, careful, and deliberate reform is now offered; and none of us should be unmindful of a time when an abused and irritated people . . . may insist upon a radical and sweeping rectification of their wrongs."

Republican Benjamin Harrison, who succeeded Cleveland as President from 1889 to 1893, was described by Matthew Josephson, in his colorful study of the post-Civil War years, *The Politicos*: "Benjamin Harrison had the exclusive distinction of having served the railway corporations in the dual capacity of lawyer and soldier. He prosecuted the strikers [of 1877] in the federal courts . . . and he also organized and commanded a company of soldiers during the strike. . . ."

Harrison's term also saw a gesture toward reform. The Sherman Anti-Trust Act, passed in 1890, called itself "An Act to protect trade and commerce against unlawful restraints" and made it illegal to form a "combination or conspiracy" to restrain trade in interstate or foreign commerce. Senator John Sherman, author of the Act, explained the need to conciliate the critics of monopoly: "They had monopolies . . . of old, but never before such giants as in our day. You must heed their appeal or be ready for the socialist, the communist, the nihilist. Society is now disturbed by forces never felt before. . . ."

When Cleveland was elected President again in 1892, Andrew Carnegie, in Europe, received a letter from the manager of his steel plants, Henry Clay Frick: "I am very sorry for President Harrison, but I cannot see that our interests are going to be affected one way or the other by the change in administration." Cleveland, facing the agitation in the country caused by the panic and depression of 1893, used troops to break up "Coxey's Army," a demonstration of unemployed men who had come to Washington, and again to break up the national strike on the railroads the following year.

Meanwhile, the Supreme Court, despite its look of somber, black-robed fairness, was doing its bit for the ruling elite. How could it be independent,

with its members chosen by the President and ratified by the Senate? How could it be neutral between rich and poor when its members were often former wealthy lawyers, and almost always came from the upper class? Early in the nineteenth century the Court laid the legal basis for a nationally regulated economy by establishing federal control over interstate commerce, and the legal basis for corporate capitalism by making the contract sacred.

In 1895 the Court interpreted the Sherman Act so as to make it harmless. It said a monopoly of sugar refining was a monopoly in manufacturing, not commerce, and so could not be regulated by Congress through the Sherman Act (*U.S. v. E. C. Knight Co.*). The Court also said the Sherman Act could be used against interstate strikes (the railway strike of 1894) because they were in restraint of trade. It also declared unconstitutional a small attempt by Congress to tax high incomes at a higher rate (*Pollock v. Farmers' Loan & Trust Company*). In later years it would refuse to break up the Standard Oil and American Tobacco monopolies, saying the Sherman Act barred only "unreasonable" combinations in restraint of trade.

A New York banker toasted the Supreme Court in 1895: "I give you, gentlemen, the Supreme Court of the United States—guardian of the dollar, defender of private property, enemy of spoliation, sheet anchor of the Republic."

Very soon after the Fourteenth Amendment became law, the Supreme Court began to demolish it as a protection for blacks, and to develop it as a protection for corporations. However, in 1877, a Supreme Court decision (*Munn v. Illinois*) approved state laws regulating the prices charged to farmers for the use of grain elevators. The grain elevator company argued it was a person being deprived of property, thus violating the Fourteenth Amendment's declaration "nor shall any State deprive any person of life, liberty, or property without due process of law." The Supreme Court disagreed, saying that grain elevators were not simply private property but were invested with "a public interest" and so could be regulated.

One year after that decision, the American Bar Association, organized by lawyers accustomed to serving the wealthy, began a national campaign of education to reverse the Court decision. Its presidents said, at different times: "If trusts are a defensive weapon of property interests against the communistic trend, they are desirable." And: "Monopoly is often a necessity and an advantage."

By 1886, they succeeded. State legislatures, under the pressure of aroused farmers, had passed laws to regulate the rates charged farmers by the railroads. The Supreme Court that year (*Wabash v. Illinois*) said states could not do this, that this was an intrusion on federal power. That year alone, the Court did away with 230 state laws that had been passed to regulate corporations.

By this time the Supreme Court had accepted the argument that corporations were "persons" and their money was property protected by the due process clause of the Fourteenth Amendment. Supposedly, the Amendment had been passed to protect Negro rights, but of the Fourteenth Amendment cases brought before the Supreme Court between 1890 and 1910, nineteen dealt with the Negro, 288 dealt with corporations.

The justices of the Supreme Court were not simply interpreters of the Constitution. They were men of certain backgrounds, of certain interests. One

of them (Justice Samuel Miller) had said in 1875: "It is vain to contend with Judges who have been at the bar the advocates for forty years of railroad companies, and all forms of associated capital. . . ." In 1893, Supreme Court Justice David J. Brewer, addressing the New York State Bar Association, said:

It is the unvarying law that the wealth of the community will be in the hands of the few. . . . The great majority of men are unwilling to endure that long self-denial and saving which makes accumulations possible . . . and hence it always has been, and until human nature is remodeled always will be true, that the wealth of a nation is in the hands of a few, while the many subsist upon the proceeds of their daily toil.

This was not just a whim of the 1880s and 1890s—it went back to the Founding Fathers, who had learned their law in the era of *Blackstone's Commentaries*, which said: "So great is the regard of the law for private property, that it will not authorize the least violation of it; no, not even for the common good of the whole community."

Control in modern times requires more than force, more than law. It requires that a population dangerously concentrated in cities and factories, whose lives are filled with cause for rebellion, be taught that all is right as it is. And so, the schools, the churches, the popular literature taught that to be rich was a sign of superiority, to be poor a sign of personal failure, and that the only way upward for a poor person was to climb into the ranks of the rich by extraordinary effort and extraordinary luck.

In those years after the Civil War, a man named Russell Conwell, a graduate of Yale Law School, a minister, and author of best-selling books, gave the same lecture, "Acres of Diamonds," more than five thousand times to audiences across the country, reaching several million people in all. His message was that anyone could get rich if he tried hard enough, that everywhere, if people looked closely enough, were "acres of diamonds." A sampling:

I say that you ought to get rich, and it is your duty to get rich. . . . The men who get rich may be the most honest men you find in the community. Let me say here clearly . . . ninety-eight out of one hundred of the rich men of America are honest. That is why they are rich. That is why they are trusted with money. That is why they carry on great enterprises and find plenty of people to work with them. It is because they are honest men. . . .

I sympathize with the poor, but the number of poor who are to be sympathized with is very small. To sympathize with a man whom God has punished for his sins . . . is to do wrong . . . let us remember there is not a poor person in the United States who was not made poor by his own shortcomings. . . .

Conwell was a founder of Temple University. Rockefeller was a donor to colleges all over the country and helped found the University of Chicago. Huntington, of the Central Pacific, gave money to two Negro colleges, Hampton Institute and Tuskegee Institute. Carnegie gave money to colleges and to libraries.

Johns Hopkins was founded by a millionaire merchant, and millionaires Cornelius Vanderbilt, Ezra Cornell, James Duke, and Leland Stanford created universities in their own names.

The rich, giving part of their enormous earnings in this way, became known as philanthropists. These educational institutions did not encourage dissent; they trained the middlemen in the American system—the teachers, doctors, lawyers, administrators, engineers, technicians, politicians—those who would be paid to keep the system going, to be loyal buffers against trouble.

In the meantime, the spread of public school education enabled the learning of writing, reading, and arithmetic for a whole generation of workers, skilled and semiskilled, who would be the literate or force of the new industrial age. It was important that these people learn obedience to authority. A journalist observer of the schools in the 1890s wrote: “The unkindly spirit of the teacher is strikingly apparent; the pupils, being completely subjugated to her will, are silent and motionless, the spiritual atmosphere of the classroom is damp and chilly.”

Back in 1859, the desire of mill owners in the town of Lowell that their workers be educated was explained by the secretary of the Massachusetts Board of Education:

The owners of factories are more concerned than other classes and interests in the intelligence of their laborers. When the latter are well-educated and the former are disposed to deal justly, controversies and strikes can never occur, nor can the minds of the masses be prejudiced by demagogues and controlled by temporary and factious considerations.

Joel Spring, in his book *Education and the Rise of the Corporate State*, says: “The development of a factory-like system in the nineteenth-century schoolroom was not accidental.”

This continued into the twentieth century, when William Bagley’s *Classroom Management* became a standard teacher training text, reprinted thirty times. Bagley said: “One who studies educational theory aright can see in the mechanical routine of the classroom the educative forces that are slowly transforming the child from a little savage into a creature of law and order, fit for the life of civilized society.”

It was in the middle and late nineteenth century that high schools developed as aids to the industrial system, that history was widely required in the curriculum to foster patriotism. Loyalty oaths, teacher certification, and the requirement of citizenship were introduced to control both the educational and the political quality of teachers. Also, in the latter part of the century, school officials—not teachers—were given control over textbooks. Laws passed by the states barred certain kinds of textbooks. Idaho and Montana, for instance, forbade textbooks propagating “political” doctrines, and the Dakota territory ruled that school libraries could not have “partisan political pamphlets or books.”

Against this gigantic organization of knowledge and education for orthodoxy and obedience, there arose a literature of dissent and protest, which had

to make its way from reader to reader against great obstacles. Henry George, a self-educated workingman from a poor Philadelphia family, who became a newspaperman and an economist, wrote a book that was published in 1879 and sold millions of copies, not only in the United States, but all over the world. His book *Progress and Poverty* argued that the basis of wealth was land, that this was becoming monopolized, and that a single tax on land, abolishing all others, would bring enough revenue to solve the problem of poverty and equalize wealth in the nation. Readers may not have been persuaded of his solutions, but they could see in their own lives the accuracy of his observations:

It is true that wealth has been greatly increased, and that the average of comfort, leisure and refinement has been raised; but these gains are not general. In them the lowest class do not share. . . . This association of poverty with progress is the great enigma of our times. . . . There is a vague but general feeling of disappointment; an increased bitterness among the working classes; a widespread feeling of unrest and brooding revolution. . . . The civilized world is trembling on the verge of a great movement. Either it must be a leap upward, which will open the way to advances yet undreamed of, or it must be a plunge downward which will carry us back toward barbarism. . . .

A different kind of challenge to the economic and social system was given by Edward Bellamy, a lawyer and writer from western Massachusetts, who wrote, in simple, intriguing language, a novel called *Looking Backward*, in which the author falls asleep and wakes up in the year 2000, to find a socialistic society in which people work and live cooperatively. *Looking Backward*, which described socialism vividly, lovingly, sold a million copies in a few years, and over a hundred groups were organized around the country to try to make the dream come true.

It seemed that despite the strenuous efforts of government, business, the church, the schools, to control their thinking, millions of Americans were ready to consider harsh criticism of the existing system, to contemplate other possible ways of living. They were helped in this by the great movements of workers and farmers that swept the country in the 1880s and 1890s. These movements went beyond the scattered strikes and tenants' struggles of the period 1830–1877. . . . They were nationwide movements, more threatening than before to the ruling elite, more dangerously suggestive. It was a time when revolutionary organizations existed in major American cities, and revolutionary talk was in the air.

Was There Ever Such a Business!

The industrial empires that were created by the robber barons appeared more and more threatening in their economic power as they merged into ever-larger companies. In the latter half of the 1890s, this trend toward consolidation accelerated. In 1897 there were 69 corporate mergers; in 1898 there were 303; the next year 1,208. Of the seventy-three “trusts” with capitalization of more than \$10 million in 1900, two-thirds had been created in the previous three years.

In 1901 J. P. Morgan created the largest company of all, U.S. Steel, merging Andrew Carnegie’s empire with several other steel companies to form a new company capitalized at \$1.4 billion. The revenues of the federal government that year were a mere \$586 million. The sheer size of the enterprise stunned the world. Even the *Wall Street Journal* confessed to “uneasiness over the magnitude of the affair,” and wondered if the new corporation would mark “the high tide of industrial capitalism.” A joke made the rounds where a teacher asks a little boy about who made the world. “God made the world in 4004 B.C.,” he replied, “and it was reorganized in 1901 by J. P. Morgan.”

But when Theodore Roosevelt entered the White House in September 1901, the laissez-faire attitude of the federal government began to change. In 1904 the government announced that it would sue under the Sherman Antitrust Act—long thought a dead letter—to break up a new Morgan consolidation, the Northern Securities Corporation. Morgan hurried to Washington to get the matter straightened out.

“If we have done anything wrong,” Morgan told the president, fully encapsulating his idea of how the commercial world should work, “send your man to my man and they can fix it up.”

“That can’t be done,” Roosevelt replied.

“We don’t want to fix it up,” his attorney general, Philander Knox, explained. “We want to stop it.”

From that point on, the federal government would be an active referee in the marketplace, trying—not always successfully, to be sure—to balance the needs of efficiency and economies of scale against the threat of overweening power in organizations that owed allegiance only to their stockholders, not to society as a whole.

In 1907 the federal government took on the biggest “trust” of all, Standard Oil. The case reached the Supreme Court in 1910 and was decided the following

year, when the Court ruled unanimously that Standard Oil was a combination in restraint of trade. It ordered Standard Oil broken up into more than thirty separate companies.

The liberal wing of American politics hailed the decision, needless to say, but in one of the great ironies of American economic history, the effect of the ruling on the greatest fortune in the world was only to increase it. In the two years after the breakup of Standard Oil, the stock in the successor companies doubled in value, making John D. Rockefeller twice as rich as he had been before.

Nothing so epitomized the economy of the late nineteenth-century Western world as steel. Its production became the measure of a country's industrial power, and its uses were almost without limit. Its influence in other sectors of the economy, such as railroads and real estate, was immense. But steel was hardly an invention of the time. Indeed, it has been around for at least three thousand years. What was new was the cost of producing it.

Pig iron, the first step in iron and steel production, is converted into bar iron by remelting it and mixing it with ground limestone to remove still more impurities. Cast iron is then created by pouring this into molds, producing such items as frying pans, cookstoves, and construction members. Cast iron was widely used in urban construction in the antebellum period, but it had serious drawbacks. Extremely strong in compression, cast iron makes excellent columns. But, because it is very brittle, it is weak in tension, making it unsuitable for beams. For them, wrought iron was needed.

Wrought iron is made by melting pig iron and stirring it repeatedly until it achieves a pasty consistency and most of the impurities have been volatilized. The laborers who worked these furnaces were known as puddlers and were both highly skilled and highly paid. After the metal is removed from the puddling furnace, it is subjected to pressure and rolled and folded over and over—in effect, it is kneaded like bread dough—until it develops the fibrous quality that makes wrought iron much less brittle than cast iron and thus moderately strong in tension. Wrought iron is quite soft compared to cast iron but it is also ductile, able to be drawn out and hammered into various shapes, just as copper can be.

Wrought iron, of course, was much more expensive to produce than cast iron but could be used for making beams, bridges, ships, and, most important to the nineteenth-century economy after 1830, railroad rails. The Industrial Revolution simply could not have moved into high gear without large quantities of wrought iron.

Steel, which is iron alloyed with just the right amount of carbon under suitable conditions, has the good qualities of both cast and wrought iron. It is extremely strong and hard, like cast iron, while it is also malleable and withstands shock like wrought iron. And it is far stronger in tension than either, and thus makes a superb building material.

But until the mid-nineteenth century, the only way to make steel was in small batches from wrought iron, mixing the iron with carbon and heating it for a period of days. Thus its use was limited to very high-value items such as sword blades, razors, and tools, where its ability to withstand shock and take

and hold a sharp edge justified its high cost. At mid-century, roughly 250,000 tons of steel were being made by the old methods in Europe, and only about 10,000 tons in the United States.

Then, in 1856, an Englishman named Henry Bessemer (later Sir Henry) invented the Bessemer converter, which allowed steel to be made directly and quickly from pig iron. As so often happens in the history of technological development, the initial insight was the result of an accidental observation. Bessemer had developed a new type of artillery shell, but the cast-iron cannons of the day were not strong enough to handle it. He began experimenting in hopes of developing a stronger metal, and one day a gust of wind happened to hit some molten iron. The oxygen in the air, combining with the iron and carbon in the molten metal, raised the temperature of the metal and volatilized the impurities. Most of the carbon was driven off. What was left was steel.

Bessemer, realizing what had happened, immediately set about designing an industrial process that would duplicate what he had observed accidentally. His converter was a large vessel, about ten feet wide by twenty feet high, with trunnions so that its contents could be poured. It was made of steel and lined with firebrick. At the bottom, air could be blasted through holes in the firebrick into the "charge," as the mass of molten metal in the crucible was called, converting it to steel in a stupendous blast of flame and heat. With the Bessemer converter, ten to thirty tons of pig iron could be turned into steel every twelve to fifteen minutes in what is one of the most spectacular of all industrial processes.

The labor activist John A. Fitch wrote in 1910 that "there is a glamor about the making of steel. The very size of things—the immensity of the tools, the scale of production—grips the mind with an overwhelming sense of power. Blast furnaces, eighty, ninety, one hundred feet tall, gaunt and insatiable, are continually gaping to admit ton after ton of ore, fuel, and stone. Bessemer converters dazzle the eye with their leaping flames. Steel ingots at white heat, weighing thousands of pounds, are carried from place to place and tossed about like toys. . . . [C]ranes pick up steel rails or fifty-foot girders as jauntily as if their tons were ounces. These are the things that cast a spell over the visitor in these workshops of Vulcan."

One of the visitors to Henry Bessemer's steelworks in Sheffield, England, in 1872, was a young Scottish immigrant to America, Andrew Carnegie. He was mightily impressed—so impressed, in fact, that in the next thirty years he would ride the growing demand for steel to one of the greatest American fortunes.

Carnegie had been born in Dunfermline, a few miles northwest and across the Firth of Forth from Edinburgh, in 1835. His father was a hand weaver who owned his own loom, on which he made intricately patterned damask cloth. Dunfermline was a center of the damask trade, and skilled weavers such as William Carnegie could make a good living at it.

But the Industrial Revolution destroyed William Carnegie's livelihood. By the 1840s power looms could produce cloth such as damask much more cheaply than handlooms. While there had been 84,560 handloom weavers in Scotland in 1840, there would be only 25,000 ten years later. William Carnegie would not be one of them.

The elder Carnegie sank into despair, and his far tougher-minded wife took charge of the crisis. She had gotten a letter from her sister, who had immigrated to America, settling in Pittsburgh. "This country's far better for the working man," her sister wrote, "than the old one, & there is room enough & to spare, notwithstanding the thousands that flock to her borders." In 1847, when Andrew was twelve, the Carnegie family moved to Pittsburgh.

The Carnegies were in the first wave of one of the great movements of people in human history, known as the Atlantic migration. At first most of the immigrants came from the British Isles, especially Ireland after the onset of the Great Famine of the 1840s. Later Germany, Italy, and Eastern Europe provided immigrants in huge numbers, more than two million in 1900 alone.

In its size and significance the Atlantic migration was the equal of the barbarian movements in late classic times that helped bring the Roman Empire to an end. But while many of the barbarian tribes had been pushed by those behind them, the more than thirty million people who crossed the Atlantic to settle in America between 1820 and 1914 were largely pulled by the lure of economic opportunity.

Many, such as the land-starved Scandinavians who settled in the Upper Middle West, moved to rural areas and established farms. But most, at least at first, settled in the country's burgeoning cities, in the fast-spreading districts that came to be called slums (a word that came into use, in both Britain and America, about 1825). For the first time in American history, a substantial portion of the population was poor. But most of the new urban poor were not poor for long.

These slums, by modern standards, were terrible almost beyond imagination, with crime- and vermin-ridden, sunless apartments that often housed several people, sometimes several families, to a room and had only communal privies behind the buildings. In the 1900 census, when conditions in the slums had much improved from mid-century, one district in New York's Lower East Side had a population of more than fifty thousand but only about five hundred bathtubs.

Such housing, however, was no worse—and often better—than what the impoverished immigrants left behind in Europe, and as Mrs. Carnegie's sister—and millions like her—reported back home, the economic opportunities were far greater. The labor shortage so characteristic of the American economy since its earliest days had not abated. So the average stay for an immigrant family in the worst of the slums was less than fifteen years, before they were able to move to better housing in better neighborhoods and begin the climb into the American middle class.

The migration of people to the United States in search of economic opportunity has never ceased, although legal limits were placed on it beginning in the early 1920s. And this vast migration did far more than help provide the labor needed to power the American economy. It has given the United States the most ethnically diverse population of any country in the world. And because of that, it has provided the country with close personal connections with nearly every other country on the globe, an immense economic and political advantage.

The Carnegies moved into two rooms above a workshop that faced a muddy alleyway behind Mrs. Carnegie's sister's house in Allegheny City, a neighborhood of Pittsburgh. Mrs. Carnegie found work making shoes, and Mr. Carnegie worked in a cotton mill. Andrew got a job there as well, as a bobbin boy earning \$1.20 a week for twelve-hour days, six days a week.

Needless to say, it didn't take the bright and ambitious Andrew Carnegie fifteen years to start up the ladder. By 1849 he had a job as a telegraph messenger boy, earning \$2.50 a week. This gave him many opportunities to become familiar with Pittsburgh and its business establishment, and Carnegie made the most of them. Soon he was an operator, working the telegraph himself and able to interpret it by ear, writing down the messages directly. His salary was up to \$25 a month.

In 1853, in a classic example of Louis Pasteur's dictum that chance favors the prepared mind, Thomas A. Scott, general superintendent of the Pennsylvania Railroad, a frequent visitor to the telegraph office where Carnegie worked, needed a telegraph operator of his own to help with the system being installed by the railroad. He chose Carnegie, not yet eighteen years old. By the time Carnegie was thirty-three, in 1868, he had an annual income of \$50,000, thanks to the tutelage of Thomas Scott and numerous shrewd investments in railway sleeping cars, oil, telegraph lines, and iron manufacturing. But after his visit to Bessemer's works in Sheffield, he decided to concentrate on steel.



It had been pure chance that had brought the Carnegie family to Pittsburgh, but its comparative advantages would make it the center of the American steel industry.

Set where the Allegheny and Monongahela rivers join to form the Ohio and provide easy transportation over a wide area, Pittsburgh had been founded, as so many cities west of the mountains were, as a trading post. Shortly after the Revolution, Pittsburgh began to exploit the abundant nearby sources of both iron ore and coal and specialize in manufacturing. While the rest of the country still relied on wood, coal became the dominant fuel in Pittsburgh, powering factories that were turning out glass, iron, and other energy-intensive products. As early as 1817, when the population was still only six thousand, there were 250 factories in operation, and the nascent city, with already typical American boosterism, was calling itself the "Birmingham of America." Because of the cheap coal, Pittsburgh exploited the steam engine long before it began to displace water power elsewhere, and most of its factories were steam-powered by 1830.

There was, however, a price to be paid for the cheap coal, which produces far more smoke than does wood. About 1820, when Pittsburgh was still a relatively small town, a visitor wrote that the smoke formed "a cloud which almost amounts to night and overspreads Pittsburgh with the appearance of gloom and melancholy." By the 1860s even Anthony Trollope, London-born and no stranger to coal smoke, was impressed with the pall. Looked down

on from the surrounding hills. Trollope reported, some of the tops of the churches could be seen, "But the city itself is buried in a dense cloud. I was never more in love with smoke and dirt than when I stood here and watched the darkness of night close in upon the floating soot which hovered over the house-tops of the city." As the Industrial Revolution gathered strength, other American cities became polluted with coal smoke and soot, but none so badly as Pittsburgh.

The most important coal beds in the Pittsburgh area were those surrounding the town of Connellsville, about thirty miles southeast of the city. What made Connellsville coal special was that it was nearly perfect for converting into coke. Indeed it is the best coking coal in the world.

Coke is to coal exactly what charcoal is to wood: heated in the absence of air to drive off the impurities, it becomes pure carbon and burns at an even and easily adjusted temperature. And either charcoal or coke is indispensable to iron and steel production. As the iron industry in Pittsburgh grew, it turned more and more to coke, the production of which was far more easily industrialized than was charcoal.

By the time Andrew Carnegie was moving into steel, Henry Clay Frick, who had been born in West Overton, Pennsylvania, not far from Connellsville, in 1849, was moving into coke. Like Carnegie, Frick was a very hardheaded businessman and willing to take big risks for big rewards. And like Carnegie, he was a millionaire by the time he was thirty. Unlike Carnegie, however, he had little concern with public opinion or the great social issues of the day. Carnegie always wanted to be loved and admired by society at large. Frick was perfectly willing to settle for its respect. Unlike Carnegie, he rarely granted newspaper interviews and never wrote articles for publication.

By the 1880s the Carnegie Steel Company and the H. C. Frick Company dominated their respective industries, and Carnegie was by far Frick's biggest customer. In late 1881, while Frick was on his honeymoon in New York, Carnegie, who loved surprises, suddenly proposed a merger of their companies at a family lunch one day. Frick, who had no inkling the proposal was coming, was stunned. So was Carnegie's ever-vigilant mother, now in her seventies. The silence that ensued was finally broken by what is perhaps the most famous instance of maternal concern in American business history.

"Ah, Andra," said Mrs. Carnegie in her broad Scots accent, "that's a very fine thing for Mr. Freek. But what do we get out of it?"

Needless to say, Carnegie had calculated closely what he would get out of it. First, the Carnegie Steel Company would get guaranteed supplies of coke at the best possible price; second, he would get the surpassing executive skills of Henry Clay Frick; and third, he would further the vertical integration of the steel industry in general and his company in particular.

Vertical integration simply means bringing under one corporation's control part or all of the stream of production from raw materials to distribution. It had been going on since the dawn of the Industrial Revolution (Francis Cabot Lowell had been the first to integrate spinning and weaving in a single building) but greatly accelerated in the last quarter of the nineteenth century as industrialists sought economies of scale as well as of speed to cut costs.

Carnegie and Frick shared a simple management philosophy: (1) Innovate constantly and invest heavily in the latest equipment and techniques to drive down operating costs. (2) Always be the low-cost producer so as to remain profitable in bad economic times. (3) Retain most of the profits in good times to take advantage of opportunities in bad times as less efficient competitors fail.

One such opportunity arose in 1889, by which time Frick was chairman of the Carnegie steel companies (Carnegie himself never held an executive position in the companies he controlled, but as the holder of a comfortable majority of the stock, he was always the man in charge). That year Frick snapped up the troubled Duquesne Steel Works, paying for it with \$1 million in Carnegie company bonds due to mature in five years. By the time the bonds were paid off, the plant had paid for itself five times over.

Much of the technological advances that Carnegie was so quick to use came from Europe's older and more established steel industries, just as, nearly a century earlier, the American cloth industry had piggybacked on Britain's technological lead. As one of Carnegie's principal lieutenants, Captain W. M. Jones, explained to the British Iron and Steel Institute as early as 1881, "While your metallurgists as well as those of France and Germany, have been devoting their time and talents to the discovery of new processes, we have swallowed the information so generously tendered through the printed reports of the Institute, and we have selfishly devoted ourselves to beating you in output."

And beat them they did. In 1867 only 1,643 tons of Bessemer steel was produced in the United States. Thirty years later, in 1897, the tonnage produced was 7,156,957, more than Britain and Germany combined. By the turn of the century the Carnegie Steel Company alone would outproduce Britain. It would also be immensely profitable. In 1899 the Carnegie Steel Company, the low-cost producer in the prosperous and heavily protected American market, made \$21 million in profit. The following year profits doubled. No wonder Andrew Carnegie exclaimed at one point, "Was there ever such a business!"

And steel was also transforming the American urban landscape. When stone was the principal construction material of large buildings, they could not rise much above six stories, even after the elevator was perfected in the 1850s, because of the necessary thickness of the walls. It was church steeples that rose above their neighbors and punctuated the urban skyline. But as the price of steel declined steadily as the industry's efficiency rose—by the 1880s the far longer-lasting steel railroad rails cost less than the old wrought-iron rails—more and more buildings were built with steel skeletons and could soar to the sky. Between the 1880s and 1913 the record height for buildings was broken as often as every year as "skyscrapers" came to dominate American urban skylines in an awesome display of the power of steel. . . .

While the late-nineteenth-century American economy was increasingly built by and with steel, it was increasingly fueled by oil. In 1859, the year Edwin Drake drilled the first well, American production amounted to only 2,000 barrels. Ten years later it was 4.25 million and by 1900, American production would be nearly 60 million barrels. But while production rose steadily, the price of oil was chaotic, sinking as low as 10 cents a barrel—far below the

cost of the barrel itself—and soaring as high as \$13.75 during the 1860s. One reason for this was the vast number of refineries then in existence. Cleveland alone had more than thirty, many of them nickel-and-dime, ramshackle operations.

Many people, while happy to exploit the new oil business, were unwilling to make large financial commitments to it for fear that the oil would suddenly dry up. The field in northwestern Pennsylvania was very nearly the only one in the world until the 1870s, when the Baku field in what was then southern Russia opened up. There would be no major new field in the United States until the fabulous Spindletop field in Texas was first tapped in 1902.

But a firm named Rockefeller, Flagler, and Andrews, formed to exploit the burgeoning market for petroleum products, especially kerosene, took the gamble of building top-quality refineries. Like Carnegie, it intended to exploit being the low-cost producer, with all the advantages of that position. The firm also began buying up other refineries as the opportunity presented itself.

The firm realized that there was no controlling the price of crude oil but that it could control, at least partly, another important input into the price of petroleum products: transportation. It began negotiating aggressively with the railroads to give the firm rebates in return for guaranteeing high levels of traffic. It was this arrangement that often allowed the firm to undersell its competitors and still make handsome profits, further strengthening the firm's already formidable competitive position.

In 1870 one of the partners, Henry Flagler, convinced the others to change the firm from a partnership to a corporation, which would make it easier for the partners to continue to raise capital to finance their relentless expansion while retaining control. The new corporation, named Standard Oil, was capitalized at \$1 million and owned at that time about 10 percent of the country's oil refining capacity. By 1880 it would control 80 percent of a much larger industry.

The expansion of Standard Oil became one of the iconic stories of late-nineteenth-century America, as its stockholders became rich beyond imagination and its influence in the American economy spread ever wider. Indeed, the media reaction to Standard Oil and John D. Rockefeller in the Gilded Age is strikingly similar to the reaction to the triumph of Microsoft and Bill Gates a hundred years later. It is perhaps a coincidence that Rockefeller and Gates were just about the same age, their early forties, when they became household names and the living symbols of a new and, to some, threatening economic structure.

The image of Standard Oil that remains even today in the American folk memory was the product of a number of writers and editorial cartoonists who often had a political agenda to advance first and foremost. The most brilliant of these was Ida Tarbell, whose *History of the Standard Oil Company*, first published in *McClure's* magazine in 1902, vividly depicted a company ruthlessly expanding over the corporate bodies of its competitors, whose assets it gobbled up as it went.

That is by no means a wholly false picture, but it is a somewhat misleading one. For one thing, as the grip of Standard Oil relentlessly tightened on the

oil industry, prices for petroleum products *declined* steadily, dropping by two-thirds over the course of the last three decades of the nineteenth century. It is simply a myth that monopolies will raise prices once they have the power to do so. Monopolies, like everyone else, want to maximize their profits, not their prices. Lower prices, which increase demand, and increased efficiency, which cuts costs, is usually the best way to achieve the highest possible profits. What makes monopolies (and most of them today are government agencies, from motor vehicle bureaus to public schools) so economically evil is the fact that, without competitive pressure, they become highly risk-averse—and therefore shy away from innovation—and notably indifferent to their customers' convenience.

Further, Standard Oil used its position as the country's largest refiner not only to extract the largest rebates from the railroads but also to induce them to deny rebates to refiners that Standard Oil wanted to acquire. It even sometimes forced railroads to give it secret rebates not only on its own oil, but on that shipped by its competitors as well, essentially a tax on competing with Standard Oil. (This is about as close as the "robber barons" ever came to behaving like, well, robber barons.) It thus effectively presented these refiners with Hobson's choice: they could agree to be acquired, at a price set by Standard Oil, or they could be driven into bankruptcy by high transportation costs.

The acquisition price set, however, was a fair one, arrived at by a formula developed by Henry Flagler, and consistently applied. Sometimes, especially if the owners of the refinery being acquired had executive talents that Standard wished to make use of, the price was a generous one. Further, the seller had the choice of receiving cash or Standard Oil stock. Those who chose the latter—and there were hundreds—became millionaires as they rode the stock of the Standard Oil Company to capitalist glory. Those who took the cash often ended up whining to Ida Tarbell.

None of this, of course, was illegal, and that was the real problem. In the late nineteenth century people such as Rockefeller, Flagler, Carnegie, and J. P. Morgan were creating at a breathtaking pace the modern corporate economy, and thus a wholly new economic universe. They were moving far faster than society could fashion, through the usually slow-moving political process, the rules needed to govern that new universe wisely and fairly. But that must always be the case in democratic capitalism, as individuals can always act far faster than can society as a whole. Until the rules were written—largely in the first decades of the twentieth century—it was a matter of (in the words of Sir Walter Scott)

*The good old rule, the simple plan
That they should take who have the power
And they should keep who can.*

Part of the problem is that there is a large, inherent inertia in any political system, and democracy is no exception. Politicians, after all, are in the reelection business, and it is often easier to do nothing than to offend one group or another. So while the American economy had changed profoundly since the

mid-nineteenth century, the state incorporation laws, for instance, had not. As an Ohio corporation, Standard Oil was not allowed to own property in other states or to hold the stock of other corporations. As it quickly expanded throughout the Northeast, the country, and then across the globe, however, Standard Oil necessarily acquired property in other states and purchased other corporations.

The incorporation laws, largely written in an era before the railroads and telegraph had made a national economy possible, were no longer adequate to meet the needs of the new economy. To get around the outdated law, Henry Flagler, as secretary of Standard Oil, had himself appointed as trustee to hold the property or stock that Standard Oil itself could not legally own. By the end of the 1870s, however, Standard owned dozens of properties and companies in other states, each, in theory, held by a trustee who was in some cases Flagler and in other cases other people. It was a hopelessly unwieldy corporate structure.

In all probability, it was Flagler—a superb executive—who found the solution. Instead of each subsidiary company having a single trustee, with these trustees scattered throughout the Standard Oil empire, the same three men, all at the Cleveland headquarters, were appointed trustees for all the subsidiary companies. In theory, they controlled all of Standard Oil's assets outside Ohio. In fact, of course, they did exactly what they were told.

Thus was born the business trust, a form that was quickly imitated by other companies that were becoming national in scope. The "trusts" would be one of the great bogeymen of American politics for the next hundred years, but, ironically, the actual trust form of organization devised by Henry Flagler lasted only until 1889. That year New Jersey—seeking a source of new tax revenue—became the first state to modernize its incorporation laws and bring them into conformity with the new economic realities. New Jersey now permitted holding companies and interstate activities, and companies flocked to incorporate there, as, later, they would flock to Delaware, to enjoy the benefits of a corporation-friendly legal climate. Standard Oil of New Jersey quickly became the center of the Rockefeller interests, and the Standard Oil Trust, in the legal sense, disappeared.



With the growth of American industry, the nature of American foreign trade changed drastically. The United States remained, as it remains today, a formidable exporter of agricultural and mineral products. Two new ones were even added in the post-Civil War era: petroleum and copper. But it also became a major exporter of manufactured goods that it had previously imported. In 1865 they had constituted only 22.78 percent of American exports. By the turn of the twentieth century they were 31.65 percent of a vastly larger trade. The percentage of world trade, meanwhile, that was American in origin doubled in these years to about 12 percent of total trade.

Nowhere was this more noticeable than in iron and steel products, the cutting edge of late-nineteenth-century technology. Before the Civil War the United States exported only \$6 million worth of iron and steel manufactures

a year. In 1900 it exported \$121,914,000 worth of locomotives, engines, rails, electrical machinery, wire, pipes, metalworking machinery, boilers, and other goods. Even sewing machines and typewriters were being exported in quantity. . . .

This country has never developed an aristocracy, because the concept of primogeniture, with the eldest son inheriting the bulk of the fortune, never took hold. Thus great fortunes have always been quickly dispersed among heirs in only a few generations. The American super rich are therefore always nouveau riche and often act accordingly, giving new meaning in each generation to the phrase *conspicuous consumption*. In the Gilded Age, they married European titles, built vast summer cottages and winter retreats that cost millions but were occupied only a few weeks a year. . . .

