American Industry (1860-1900)

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Industrialization by the 1860s

In 1860 there were more than 140,000 factories in the United States. About 1.5 million Americans worked in factories. Still, however, the United States continued to be primarily an agricultural nation. Seventy percent of all Americans were farmers. The great majority of industrial workers in 1860 were women and children. For this reason they had little impact on the political scene. This changed in 1877 when a nationwide strike of railroad workers took place. Americans came to realize that workers had the power to bring America to a standstill. By 1900 5.5 million Americans were involved in industry. In 1980 only about 20 percent of the population even lived in a rural environment.

It could be argued that the transformation of the United States from a rural, agricultural nation before the Civil War, into an industrialized nation by 1900 is one of the most dramatic changes in history. Before the Civil War, manufacturing in the United States was on a small scale. The United States was about 5th in the world in industrial production. By 1890 the United States had become the leading industrial nation in the world. By 1900 American exports topped $11 billion – by 1924, $24 billion.

The decades after the Civil War shaped the growth patterns of modern American corporations. Some historians have argued that the war did a great deal to retard the growth of industry, but it cannot be denied that the demand for arms, supplies, transportation and the industrial community. In the decades after the war, America's industry began to apply the lessons learned in supplying the needs of war to the creation of consumer goods.

American industry had an enormous domestic market and labor source. The population of the United States tripled between 1860 and 1910. The nation's population grew from 30 million in 1860 to 90 million in 1910. During the same period urbanization grew as never before. In 1840 only one person out of every nine lived in a city. By 1900 half of all Americans were city dwellers.

Many European industrial nations had to depend on other nations or far-flung colonies to be a market for finished goods or for the raw materials needed to produce finished goods. This was not necessary for American industry. In 1860 Americans had only begun to scratch the surface in terms of exploiting our natural resources. From the end of the Civil War to the 1900s, American resources were exploited on an increasingly grander scale. In 1860 the United States mined 15 million tons of coal. In 1900—500 million.

Money Capital

In the second half of the 19th century capital became increasingly more available for business and industrial ventures. Foreign investors were attracted to the great growth potential of the American economy. In addition, numerous American banks, grown wealthy on war investments and loans, began to invest money in capitalist ventures. The ready availability of capital attracted entrepreneurs who were capable and creative.

Government Support of Business

Both the federal and state governments supported American industry. The United States made enormous land grants to railroad companies to encourage the expansion of rail transportation. About 10 percent of the land in the United States was given to private businesses by federal and state governments in the latter half of the last century. The most important protection, and in the final analysis, the most injurious, which the government gave to American industry was protective tariffs. As we shall see over the course of this year, the tariff became a major political issue in the United States. Tariffs have been employed by our government to both raise revenue and to protect native industry.

Another factor that increased the industrialization of the United States, was the growth of technology. By 1860 the United Sates patent office had granted 4,000 patents. By 1914 the number had grown to 41,000. Increasingly, the discoveries and principles of science were exploited to produce either industrial goods or consumer goods. Examples of technical innovations which were born in the latter half of the 19th century include the internal combustion engine, the telephone, the phonograph, electricity, refrigeration, the motorized reaper and tractor, the repeating and bolt action rifle, the machine gun, industrial cigarette rolling machines, the Bessemer steel converter, the typewriter, and on and on.

The growth of the American labor supply aided industry. In order for industry to flourish it is necessary to have cheap labor. This labor was provided from two sources—the native population and immigrants from Central and Eastern Europe. Both groups grew enormously during the last third of the 19th century.

The last factor, that contributed to the growth of industry in the United States, is the Revolution in transportation and communication, which was made possible by the railroads and the telegraph.

Railroads & Telegraph

Between 1870 and 1900 railway mileage in the United States increased from 53,000 miles to 190,000. During the same years the railroads improved in speed, comfort and safety. Comfort increased considerably for passengers on long trips with the introduction of the Pullman sleeper car in the 1870s. Single sets of tracks were replaced with a double system over most of the country. This made it possible for rail traffic to flow two ways with snarl-up. Iron rails, which tended to shatter under heavy loads, were replaced with steel rails. This allowed trains to carry heavier freight loads. Locomotive tenders were built better so that coal could be burned in them instead of wood. Coal is more efficient than wood. This made for fewer fuel stops and more powerful engines. In 1869 Westinghouse patented the air brake. The air brake was a more efficient system than mechanical brakes. This made it possible for trains to carry heavier loads safely.

Two other important factors contributed to the growth and success of rail transportation in the United States. As a result of the Kansas-Nebraska Act, most western rail lines stopped in Chicago. As a result that city became the meatpacking center for the United States. Livestock from the western prairie was loaded into railcars and brought east by train. In Chicago the livestock was slaughtered and processed into cans, barrels, and refrigerator cars. By 1865, there were over 35 different rail companies in the United States. There was little standardization in rail service. Frequently goods would have to be unloaded and reloaded on different trains several times before they arrived at their destination. By the turn of the 20th century virtually all of the rail lines in the United States were of standard gauge and style.

The telegraph improved by Samuel Morse in 1844, the telegraph connected most of the United States by 1860, and spanned the Atlantic by 1866. The telegraph, and by the end of the century the telephone, made rapid communication across the nation possible. Businessmen were able to schedule shipments and production based on information received from all over the country.

The Rise of Big Business

From 1865 to the 1890s saw an amazing expansion of industry and business in the United States. The expansion was on such a large scale and so rapid that it left in its wake serious social and political problems, which affected the entire population of the nation. These problems would have to be addressed by government and industry before a wide range of the American population could reap the benefits of the American capitalist system.

Several significant aspects marked manufacturing in postbellum America. The most important was the development of the small shop and cottage industry into the large factory. We have already touched upon that aspect of American industrial development in an earlier lecture. Other characteristics of American industrial evolution include:

A National Market—The opening of the West crated a domestic market of enormous size to American industry. This huge territory forced the development of a transportation system, which could connect the new markets of the urban industrial centers of the East. The railroads filled this need adequately, and as a result of this development, growth and competition, railroads themselves became a new problem.

Abundant Resources—The discovery and exploitation of the nation's resources contributed heavily to expansion of American industry during the period following the Civil War. Large deposits of coal, iron, gold, silver, and copper were found n various regions of the nation. The discovery of oil, and the development of oil as a fuel would have a dramatic impact upon the United States. Lumber was available in large quantity in the great forests of the Northwest.

The Labor Supply—In the years after the Civil War, the American labor supply grew as it had never grown before. Civil War veterans, many of whom had been farmers before the war, sought employment in other areas after the war was over. Women and children were also attracted to the cities and factory jobs. The largest source of new labor in the United States was immigrant labor. Millions of Eastern and Southern Europeans arrived in the United States during the two decades before the turn of the 20th century. They wanted to escape political unrest, economic instability and high unemployment in their home countries. American industry offered work for them, and generally unrestricted immigration policies provided them with the opportunity to come to America. Because most immigrants unskilled, and because they were unsupported by the labor organizations which were developing in the US at the time, these new Americans had to work long hours for very low wages.

Corporate Organization—The form of business organization changed rapidly after about 1850. Individual partnerships and proprietorships were replaced by state chartered corporations. There were obvious advantages to the corporate business model over other kinds of organizations. Corporations were more permanent. They gave developers almost unlimited potential for the capital acquisition (through stock sales and bonds), and they were attractive to investors because they had limited liability.

Territorial Expansion—Manufacturing rapidly expanded from the northeastern states, which had been the hub of industrial development before the civil war, into the Midwestern states. Chicago became the center for meatpacking, flour, and grain products were produced in Minneapolis, and much of the steel industry moved from Pennsylvania into Ohio and Illinois. By the 1880s manufacturing had even begun to occupy a major part of the economic life in the South. Textiles, iron, lumber, tobacco, sugar, and oil were produced and finished in factories in southern states. Cheap labor and closeness to raw materials boosted the development of southern industry.

The rapid growth of cities all over the U.S., but especially in the Midwest and South helped to contribute both population centers for American industrial labor, and capital investment centers that encouraged the growth of business and factories. Next time we'll take a look at city growth in post-Civil-War America.

The Growth of Cities

Significant urban expansion accompanied industrial growth. The growth of America's cities had a profound affect on American thought, society and politics. Up to the civil war, for the most part, the American voter came from a rural setting. He was chiefly interested in rural issues and what might be termed rural ideas. After the Civil War, for the most part, the American voter came from a rural setting. He as chiefly interested in rural issues and what might be termed rural ideas. After the Civil War, urban issues began to overshadow rural themes in American life and the development of American thought. It is notable that city dweller make up a broad range of economic and social groups. Often they are at cross purposes over issues which affect them. For this reason it is worthwhile to examine some of these groups, and some of the problems of 19th century urban life.

“New Immigrants” — As millions of European immigrants arrived in the United States they settled in American cities. Previous waves of immigrants to the US had been from Western and Northern Europe. Most had been agrarian in their homelands, and within a short time after their arrival in America, they had moved west to settle lands there and begin to farm. In the latter half of the 19th century, Eastern and Southern European immigrants were either from European urban centers, or were unable to move west to farm. Instead they settled in the cities of the Northeast. Many of them, especially Jews (who had fled persecution in Eastern European cities) and Italians (who had been forced to leave Italy because of their political beliefs) filled the factories and shops of cities like New York, Boston, and Philadelphia. The new immigrants were instrumental in the expansion of American industry and settlement. They provided inexpensive, steadfast labor for the building of bridges, factories, railroads and telegraphs. They also imparted upon Americans a new awareness of the culture, arts, thought and traditions of Old Europe.

The Urban Middle Class—Both foreign and native born individuals who had been successful in their ventures melded into a new urban middle class. This class was primarily composed of successful professionals and businessmen. A small segment of this group had become affluent by skillful investments in American banking, business and industry. By and large, their business methods were admired and frequently imitated by those who aspired to join them in the affluence of the urban middle class. This class as a whole, was urbane, and tasteful in their social and cultural conduct. They can be contrasted with the often vulgar and ostentation which began to characterize the more wealthy class of the “Gilded Age.” The wealthiest members of the American capitalist class were all too often obsessed with wealth and power and the vulgar display of both.

Urban Problems—Although most American businessmen were engaged in acquiring greater wealth, and in displaying it in the form of townhouses, country estates, and social affairs, a small group of Americans in a variety of positions tried to come to terms with the various problems which accompanied the disorderly growth of America's cities. Although they were frequently overcome by the problems they continued to try their best to better the life of the urban dweller. Major issues they tried to cope with included urban housing, crime, public transportation, alcoholism, fire safety, public health, recreation, and political reform. Among the most important figures of urban reform were Joseph Pulitzer (journalism), Henry George (politics), Clara Barton (public health), Susan B. Anthony (temperance) and William Graham Sumner (sociology), and Jane Addams and Florence Kelly (housing).

Urban Blacks—Large numbers of blacks were simply not to be found in Northern cities until after the First World War. But, black sub-communities did begin to appear in such northern cities as Baltimore, Philadelphia and New York by the 1880s. These communities, like the ethnic communities of other minorities (Italians, Eastern Jews, etc.) were almost entirely socially self-sufficient. Blacks had their own restaurants, newspapers, churches and local leadership.

Many blacks had moved north after the Civil War expecting to gain the political rights which they had been denied by Jim Crow laws in the South. Many were disappointed to find themselves and their families socially and economically segregated and politically disenfranchised in the North as they had been in the South. Many blacks, however, took advantage of the economic opportunities which were available and prospered. They became part of the urban middle class and acquired the same wealth and culture that their white counterparts had. What the North offered was economic and educational opportunity without the legal limitations of the oppressive Jim Crow laws o the postbellum South.

Captains of Industry

Today I want to look at some of the people who were leaders in the growth and development of American industry. The last half of the 19th century offered almost unlimited opportunities for an individual with aggressiveness, skill and a certain lack of ethical or moral fiber to become rich and powerful. In addition to looking at the activities of some of these individual, I will also look at their personalities and characters.

The Railroad Barons

The period from 1865 through 1890 was a period of growth and consolidation in the American railroad industry. The so-called railroad barons profited from bringing technological standards to the rail industry. Several of them became fabulously rich in the process.

J. Edgar Thompson — Thompson was able to consolidate all of the small rail lines in Pennsylvania and Ohio into one railroad. He used a combination of secret stock purchases and rate wars to either take over smaller railroads or force them out of business. Thompson was an efficient and aggressive businessman with little personality otherwise.

Cornelius Vanderbilt — Vanderbilt founded the New York Central Railroad. He was ruthless and eccentric. He used any means at his disposal to take over smaller rail lines. The Vanderbilt family is of interest primarily because they set the standard for American high society for almost half a century. So a few stories about the family might be in order at this point.

Cornelius never carried much cash or a checkbook. If he needed to pay for something he would tear off a piece of paper from whatever was handy, and write a check on it. No one was ever known to refuse a Vanderbilt "check."

Cornelius disliked riding on trains. To make travel easier he had a special railroad car built which contained a lavish bedroom and study and cost several million dollars.

The Vanderbilt might be called the Greatest House Building Family. The Vanderbilt house building included a French chateau on the Hudson, a $10 million, 70 room "summer cottage" in Newport, Rhode Island, townhouse in New York City made almost entirely of marble, and a Long Island "retreat" which contained 155 rooms (45 of them were bathrooms).

At his death in 1877, Cornelius left behind $107 million. At the turn of the century the Vanderbilt family wealth was estimated at $400 million. Poor investments and lavish spending contributed to the fact that by 1945 the Vanderbilt fortune amounted to only $4.5 million.

Now we will look at some of the industrial magnates of the late 19^{th} century.

Andrew Carnegie — Carnegie started out in the United States as a penniless Scottish immigrant. He was incredibly frugal, once remarking that he still had the first penny that he had made in America. In 1850 he bought an oil well. He used the profits to invest heavily in the steel industry. Carnegie knew nothing about the steel industry. His talents lay in investing, in motivating his employees to the brink of their abilities, and in promoting his products. In 1901 he sold his steel properties to banker J. P. Morgan for $225 million. Morgan used Carnegie's steel holdings to create U. S. Steel. Carnegie felt that a rich man should retire in his later years and devote his fortune to helping those who were less fortunate. He contributed over $350 million to worthy educational causes. Carnegie was the only genuine philanthropist of the very wealthy of his day.

J.D. Rockefeller — Rockefeller began his career in the wholesale food business. Then he made enormous profits from the sale of food to the Union Army during the Civil War. He invested the profits of his food business in the oil industry. During the latter third of the 19^{th} century Rockefeller was able to use trusts and, when necessary, violence to create the Standard Oil Company. By 1900 Rockefeller owned controlling interest in railroads, steam ship lines, and iron and steel concerns. Rockefeller was ruthless and aggressive. He once told his 6 year-old son that "Behind every great fortune there is a great crime."

J.P. Morgan — Probably the greatest American banker and financier who ever lived. Morgan inherited his father's banking business and developed it into the most powerful financial institution in America. The Morgan Bank and Trust. Morgan's success may be ascribed to the fact that he was very imaginative, very ruthless and almost totally without principles. He was once asked how he felt about economic depressions. His response was, "They are wonderful. They return property to the hands of its rightful owners." (Explain)

The Food Industry

A number of American industrialists developed food production into an industry in the last half of the 19^{th} Century. Until the development of the food industry, most food production and processing took place in the home and in small shops. We will look at a few of the big names in the food industry now.

Gail Borden — Borden was born in New York in 1801 but moved to Texas in 1829. He spent some time in the Galveston area as a surveyor. While living in the frontier country of Texas, Borden became aware of the shortage of easily transportable, yet nutritious food. He invented a packaged meat biscuit in 1851. In 1853 he invented a process for the production of condensed canned milk (patented 1856). In 1857 Borden returned to New York and founded the condensed milk company, which became the Borden Milk Company). Borden's milk was used extensively by the Union Army in the Civil War. For the first time in history, troops in the field could be supplied with milk without fear of spoilage.

H.J. Heinz — Heinz felt that the kitchen industry of vegetable canning could be adapted to an industrial scale. In 1876 heinz and his brother and cousin founded the F. & J. Heinz company to make pickles and other prepared foods. After several years of hard times Heinz was able to succeed with his business. The most famous Heinz product was tomato ketchup.

P. D. Armour — Philip Armour developed the meat packing industry. His major claim to fame was the perfection of the "disassembly line." He set up a moving meat processing system which began at one end with hogs being offloaded from rail cars and ended at the other with a large variety of packaged and canned mesa ready for sale. It was said of Armour's process that the only part of the pig that was not used was the squeal.

Gustavus Swift — Swift pioneered the use of ice and refrigerated rail cars to send meat from his Chicago factory to population centers all over the united states. Swift had to use advertising to overcome popular suspicions that meat that had been slaughtered for more than a few days was not useable. Swift solved the problem by offering his own shops in major eastern cities and underselling local butchers. Swift was able to offer more meat and better variety than local butchers, at a much lower price.

By the end of the 19th century American consumers had become used to the greatest variety of foods in the world. A middle class family in any city in the united states could sit down to a dinner which included meat grown in Texas and packaged in Chicago, canned vegetables from Florida or California, bread baked with flour form Minnesota, potatoes from Idaho, and sugar from Louisiana or Cuba.