THE RISE OF INDUSTRIAL AMERICA
- By 1900, the United States had emerged as the leading industrial power in the world
- Its manufacturing output exceeded that of its three largest rivals, Great Britain, France, and Germany
- The rapid growth of the U.S. economy, averaging 4% a year, was the result of a combination of factors:
  1. The country had many natural resources, including raw materials essential to industrialization—coal, iron ore, copper, lead, timber, oil
  2. An abundant labor supply was, between 1865 & 1900, supplemented yearly by the arrival of hundreds of thousands of immigrants
  3. A growing population combined with an advanced transportation network made the U.S. the largest market in the world for industrial goods
  4. Lots of capital as Europeans with wealth recognized a good investment & joined rich Americans in funding the economic expansion
  5. Development of laborsaving technologies increased productivity as over 400,000 new patents were granted during the late 1800s
  6. Businesses benefited from friendly government policies that protected private property, subsidized railroads with land grants & loans, supported U.S. manufacturers with protective tariffs, and refrained from regulating business operations or heavily taxing corporate profits
  7. Talented entrepreneurs emerged during this era who were able to build and manage vast industrial and commercial enterprises

THE BUSINESS OF RAILROADS
- The combination of business leadership, capital, technology, markets, labor, and government support is evident in the development of the nation’s first big business (railroads)
  - After the Civil war, railroad mileage increased from 35,000 miles in 1865 to 193,000 miles in 1900
  - More than any other technological innovation or industrial achievement of the 19th century, the development of a nationwide railroad network had the greatest impact on American economic life
  - Railroads created a market for goods that encouraged mass production, mass consumption, and economic specialization
  - The resources used in railroad-building promoted the growth of other industries, especially coal and steel
  - Railroads also affected the routines of daily life
  - After the American Railroad Association divided the country into four times zones in 1883, railroad time became standard time for everyone
  - The most important innovations of the railroads may have been the creation of the modern stockholder corporation & the development of structures in finance, business management, and the regulation of competition

EASTERN TRUNK LINES
- In the early decades of railroading (1830-1860), the building of separate local lines resulted in different gauges (distance between tracks) and incompatible equipment
- These inefficiencies were reduced after the Civil War through the consolidation of competing railroads into integrated trunk lines
- "Commodore" Cornelius Vanderbilt used his millions earned from a steamboat business to merge local railroads into the New York Central Railroad in 1867, which ran from New York City to Chicago and operated more than 4,500 miles of track
- Other trunk lines, such as the Baltimore and Ohio Railroad and the Pennsylvania Railroad, connected eastern seaports with Chicago and other Midwestern cities and set standards of excellence and efficiency for the rest of the country

WESTERN RAILROADS
- The great age of railroad-building coincided with the settlement of the last frontier
- Railroads played a critical role in the trans-Mississippi West by promoting settlement on the Great Plains and linking the West with the East and thereby creating one great national market

FEDERAL LAND GRANTS
- Recognizing that western railroads would lead the way to settlement, the federal government provided railroad companies with huge subsidies in the form of loans and land grants
- 80 railroad companies received more than 170 million acres of public land, more than 3 times the acres given away under the Homestead Act
- The land was given in alternate mile-square sections in a checkerboard pattern along the proposed route of the railroad
- The government expected that the railroad would make every effort to sell the land to new settlers to finance construction
- It was hoped that the railroad would increase the value of gov’t lands & provide preferred rates for carrying the mail & transporting troops
- There were also negative consequences to the subsidies
- The land grants and cash loans promoted hasty and poor construction and led to wide-spread corruption in all levels of government
- Insiders used construction companies, like the Credit Mobilier to pocket huge profits, while bribing government officials & legislators
- Protest against the land grants in the 1880s occurred when citizens discovered that railroads controlled half of the land in some western states
TRANSCONTINENTAL RAILROADS
- During the War, Congress authorized land grants & loans to build the first transcontinental railroad to tie California to the rest of the Union
- The task was divided between two newly incorporated railroad companies
- The Union Pacific was to build westward across the Great Plains, starting from Omaha, Nebraska
  (General Renville Dodge directed construction of the Union Pacific using thousands of war veterans and Irish immigrants)
- The Central Pacific had the challenge of laying track across mountain passes in the Sierras by pushing eastward from Sacramento, California
  (Charles Crocker recruited 6,000 Chinese immigrants, who at enormous risk, blasted tunnels through the Sierras for the Central Pacific)
- Completing one of the great engineering feats of the 1800s, the two railroads came together on May 10, 1869, at Promontory Point, Utah, where a golden spike was ceremoniously driven into the ground to mark the linking of the Atlantic and the Pacific states
- Before 1900, four other transcontinental railroads were constructed across the different sections of the West
- Three of them were completed in the same year, 1883:
  1. The Southern Pacific, which tied New Orleans to Los Angeles (1883)
  2. The Atchison, Topeka, and Santa Fe, which carried passengers and freight between Kansas City and Los Angeles (1883)
  3. The Northern Pacific, which connected Duluth, Minnesota, with Seattle, Washington (1883)
  4. The Great Northern, from St. Paul, Minnesota, & Seattle by James Hill was the only railroad to be built without federal subsidies (1893)

COMPETITION AND CONSOLIDATION
- New technologies & industries tend to be overbuilt
- This was the case with the railroads built in the 1870s and 1880s, many of which were unprofitable
- In addition to overbuilding, the railroads frequently suffered from mismanagement and outright fraud
- Speculators like Jay Gould went into the railroad business for quick profits and made their millions by selling off assets & watering stock (inflating the value of a corporation’s assets & profits before selling its stock to the public)
- In a ruthless scramble to survive, railroads competed by offering rebates (discounts) and kickbacks to favored shippers while charging excessive freight rates to smaller customers such as farmers
- Railroads attempted to increase profits by forming pools, in which competing companies agreed secretly to fix rates & share traffic
- A financial panic in 1893 forced 255 of all railroads into bankruptcy
- J.P. Morgan and other bankers quickly moved in to take control of the bankrupt railroads and consolidate them
- With competition eliminated, they could stabilize rates and reduce debts
- By 1900, seven giant systems controlled nearly 67% of the nation’s railroads
- A positive result was a more efficient rail system
- On the negative side, the system was controlled by a few powerful men like Morgan, who dominated the boards of competing railroad corporations through interlocking directorates (the same directors ran competing companies)
- In effect, they created regional railroad monopolies
- Railroads captured the imagination of late 19th century America, as the public, local communities, states, and the federal government invested in their development
- At the same time, however, customers & small investors often felt that they were the victims of slick financial schemes and ruthless practices
- William Vanderbilt, who inherited his father Cornelius Vanderbilt’s transportation empire, responded to critics, “The public be damned”
- Early attempts to regulate the railroads by law did little good
- Granger laws passed by Midwestern states in the 1870s were overturned by the courts & the Interstate Commerce Act was ineffective in 1886
- It was not until the Progressive Era (early 1900s) that the Interstate Commerce Commission was given expanded powers to protect the public