Chapter 18: Industry and Urban Growth

Section 1- A New Industrial Revolution

Focus Question: What conditions spurred the growth of industry?

I. Why Industry Boomed
   A. With western expansion there were now more natural resources to be had, including coal, iron, lead, copper and lumber.
   B. Government policies allowed for further industrial growth.
      1. The government gave land grant a subsidies to the railroads and other big businesses.
   C. Steel and Oil
      1. Technology was another factor in the growth of industry.
      2. In the 1850’s the Bessemer Process was developed, which allowed steel mills to produce steel that was lighter and stronger steel at a lost cost.
      3. Steel mills sprung up across the midwest, but Pittsburgh became the nation’s steel capital.
      4. In 1859, oil was discovered outside of Titusville, Pennsylvania.
         a) The oil industry found ways to refine the oil for lubrication of machines and later into gasoline to power engines and automobiles.
   D. A Railroad Boom
      1. Railroads helped to fuel the industrial growth, by bring people and goods to the west and raw materials back to the east.
      2. Companies improved their services by adding sleeper cars and laying down more tracks.
      3. Rail companies also consolidated smaller lines, to reduce competition and keep prices high.
         a) This allowed for big companies to gain control of transportation in the West and South, were enraged farmers.

II. Inventors and Inventions
   A. More patents were issued in 1897 then in the ten years prior to the Civil War.
   B. Edison’s Invention Factory
      1. In 1876, Thomas Edison set up a research laboratory in Menlo Park, New Jersey.
         a) This is where Edison and other invented items such as the light bulb, phonograph and hundreds of others.
      2. In 1882, Edison opened the first electrical plant in New York City and others soon sprung up across the country.
   C. A Communication Revolution
      1. Since 1844 the telegraph was used to help people communicate.
         a) The use of the telegraph was expanded between Europe and America do to underwater cable.
      2. In 1876, Alexander Graham Bell made his first phone call using his invention of the telephone.
      3. By 1885, more than 300,000 phones had been purchased and Bell had organized over 100 local phone companies into two large companies, American Telephone and Telegraph company.
   D. Devices for Home and Office
      1. In 1868, Christopher Sholes invented the “Type-Writer”
      2. In 1888, George Eastman introduced an inexpensive and lightweight camera, as a result ordinary people were able to record their lives.
      3. African Americans also contributed to the rush of inventions coming out of America.
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a) Jan Matzeliger, created a machine to sew the tops of shoes to the soles.
b) Granville Woods came up with a way to send telegrams between moving trains.

III. A Transportation Revolution
A. The invention of the automobile ushered in a new era of freer and faster transportation.
B. Henry Ford
   1. Ford did not invent the automobile, but just a more efficient way of mass producing the machine.
   2. Ford introduced the assembly line in 1913 which cut the production time of car in half.
      a) By 1917 more than 4.5 million Americans owned cars.
C. The Wright Brothers
   1. In 1903, Wilbur and Orville Wright tested the first gas-powered airplane in Kitty Hawk, North Carolina.
   2. The idea of airplanes did not catch on until World War I, when their use in the military was realized.