Technology Changes the World

The Steam Engine Leads to Big Changes

The steam engine developed by James Watt helped usher in an extraordinary change in how humans work and live. Versions of steam engines had been designed previously: in ancient Rome, in Egypt in the 1500s, and in the 1600s and 1700s in Spain, Italy, Germany, and England. Watt made some key technical improvements that greatly increased the efficiency and power of steam engines. These new engines led to the rapid invention of machines that could do work that had previously been done using animal power, wind or water power, or human muscle power. The nature of work itself began to change. Factories became more and more important. Waves of people migrated from rural, agricultural lives to cities in order to work in the new factories. Mining also expanded due to new technology. People had previously dug minerals out of the earth, but the developments of the Industrial Revolution meant that more mining could be done.

Work and Workers

The Industrial Revolution started at the end of the 1700s in Great Britain, sweeping across that country and expanding into Europe and the United States during the 1800s. People's lives changed dramatically. New technologies meant that more goods could be produced and could be sold for less. The increased variety and affordability of goods impacted people's lives in many ways. Business and factory owners held power and grew wealthy. However, most of the people doing the new work remained poor, because wages were usually very low. Moreover, workers often toiled in dangerous conditions. They had few or no rights or protections and were often forced to work ten to twelve hours a day or more. Many children began work at a very young age, facing all the same difficulties that adult workers did.

Reforms and Debates

Over time, reformers, some politicians, and workers themselves began to push for better conditions. In Britain and Europe, some laws were passed to provide minimal protections to workers and to require some education for children. Workers formed unions to try to gain some measure of power.

Owners of factories, mines, and businesses objected to regulation by the government, arguing that the free market should set wages and determine working conditions. Debate and conflict developed over the role of government and how best to approach business and labor. Eventually, workers in the West gained protections against most of the harshest working conditions, but the debate about the free market and government regulation continues to this day.

Political and Economic Ideas

The changes and conflicts linked to work and workers led to the development of new political and economic theories. Karl Marx and Friedrich Engels proposed communism as a solution to the oppression of workers. Other reformers considered how socialism could improve people's lives. The modern form of capitalism developed and came to shape the ways that economies and businesses work.