

Eli Whitney (1765-1825)

Before Eli Whitney thought of **mass production**, people made everything by hand. This was called **manufacturing** (manu = hand; fact = make) so manufacturing means to make by hand. Today “manufacturing” means making anything—usually not by hand. Manufacturing by hand was time-consuming and expensive. It also meant that if a part of an object broke, the owner could not get a part from somewhere else to replace it; it had to be specially made. This was a time-consuming and sometimes dangerous process in the middle of a road trip, construction project, or wartime battle!

Eli Whitney was the first person to use the principle of mass production (making many things at once). He used mass production to make interchangeable parts. In 1798, the United States government hired him to make muskets (guns) for war. Whitney was the first to use precision machinery to make interchangeable parts for muskets. Trained but unskilled workers made the parts. Each worker used machine tools to produce one specific part of the gun. Before Whitney’s system existed, one worker made all or most of the gun. Whitney’s system created parts that were uniform (all the same) and interchangeable.

This led to faster production and less expensive products. Soon mass production of interchangeable parts was used to manufacture many other products. It increased the output of goods and changed the United States from an agricultural economy to a manufacturing economy. It started the Industrial Revolution in America.

Eli Whitney is also famous for inventing the **cotton gin**. Cotton was difficult to harvest because it is hard to separate the cotton from the seed by hand. Whitney invented a cotton gin (short for “engine”) that would separate cotton from its seed. He patented his invention in 1793, but others took advantage of him and used the design without paying him royalties. It was difficult to monitor these people because they were mainly in rural areas on farms or plantations.

The cotton gin made cotton ready for spinning at a faster rate than hand deseeding. The gin could produce fifty times more cotton than before, and it made the United States the world’s leading producer of cotton. This was good for the economy, but because slaves handpicked most of the nation’s cotton, they had to work much harder to keep up with the increased production.

Exercise:

1. What are interchangeable parts? Why are they important? _____

2. What is mass production? _____

3. What is good about mass production? _____

4. What is a drawback to mass production? _____

5. Which two types of economies did Eli Whitney affect with his cotton gin and mass production? _____
