

Early Technology

Another part of the **Industrial Revolution** was the rise of **technology** with the invention of machines and devices that would change people's lives forever. One invention often led to another related invention. For example, once the steam engine was invented, it helped advance other forms of technology. It was used in newly designed ships, trains, early automobiles, and machinery for factories, mining, and farming. Technology created new jobs and contributed significantly to social and economic changes.

Communications Technology

Telephones: The invention of the telephone, by **Alexander Graham Bell** in 1876, dramatically changed how people were able to communicate with each other. By the early 1900s, telephones were being used in the homes of Canada's wealthy and in some businesses. Switchboard operators transferred calls from one person to another.



An early telephone



A switchboard operator in 1900

Radios: Telegraph and telephone technology led to the development of radio. Radio technology began as "wireless telegraphy." It started with the discovery of "radio waves." Radio waves are low frequency electromagnetic waves that have the ability to transmit music, speech, pictures, and other data invisibly through the air. **Sir Oliver Joseph Lodge**, a British physicist and writer, was involved in the early development of wireless telegraphy.

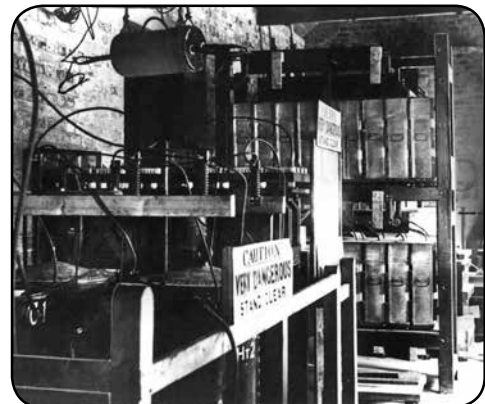
The Italian inventor, **Guglielmo Marconi**, proved the possibility of radio communication. He sent and received his first radio signal in Italy in 1895. In 1899, he flashed the first wireless signal across the English Channel. By 1902, Marconi had succeeded in transmitting the first transatlantic radiotelegraph message from England to Newfoundland. The world's first radio broadcasting station was set up in Montreal in 1919 by the Canadian Marconi Company. For the first time, the people of Canada could be directly connected to each other and the world. They could share news as it happened and entertainment. The invention of radio, in turn, led to the development of film and television.



Oliver Lodge with an early "wireless"



A radio receiver in the early 1900s



A Marconi Company transmitter in 1901

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Transportation Technology

Bicycles: Before advancements in technology, horses were the main form of land transportation. People either rode on horses or in wagons and carriages pulled by horses. Locomotives and bicycles were the first alternatives to horses. In the 1890s, bicycles were a wildly popular form of cheap transportation, especially for women. Bicycles changed the way women dressed and gave them the freedom to go out on their own without an escort. Women activists called bicycles “freedom machines.”



Two women with “Safety Bicycles” in 1890

Automobiles: When automobiles were first introduced, many people thought they were too noisy, expensive, and unreliable. People didn’t trust them because they often broke down and could leave people stranded. Automobiles seemed like a passing fad and most people could not afford one. Horses and automobiles did not share the road very well. In fact, some places banned the use of automobiles for a time.

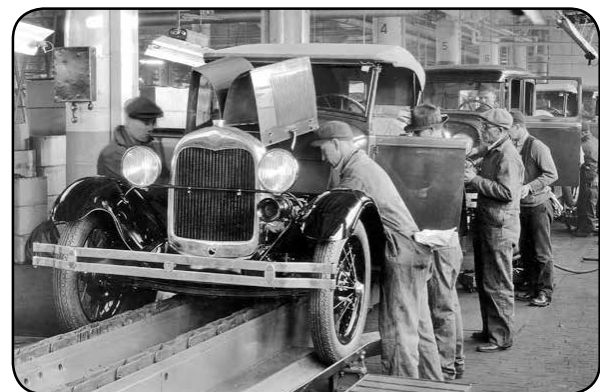


McLaughlin automobile ad

After building horse drawn carriages since 1876, McLaughlin Carriage Works in Ontario started building “horseless carriages” in 1907. McLaughlin built the carriage part of the automobile and partnered with Buick Motor Company in Michigan, which supplied the engine. They launched an advertising campaign to convince people of the benefits of driving an automobile.

In 1904, **Henry Ford** built his first automobile factory in Canada. Ford developed the assembly line method of manufacturing automobiles in 1908. This development made it possible for the average person to own an automobile. By 1920, \$300 would buy you a brand new Ford Model T.

Owning an automobile freed the common person from travel limitations. It connected people in a way that had not been possible before. Horse drawn transportation had a practical limitation of 10 to 15 miles. This isolated rural communities and farms that were more than 15 miles from a city, railroad, or waterway from the mainstream of economic and social life. As the popularity of cars increased, a system of roads was developed across the country, eventually making it possible to drive from the east coast to the west coast of Canada. The mobility created by automobiles had a profound effect on society’s living habits and social customs and on Canada’s economic growth.



An automobile factory assembly line



Early Technology

Answer the following questions in complete sentences.

1. Which forms of technology led to the development of radio?

2. How did early telephone calls get transferred from one person to another?

3. What are radio waves?

4. How did radio broadcasts change things for the people of Canada?

5. What did many people think about automobiles when they were first introduced?

6. What development made it possible for the average person to own an automobile?

7. What advantages did automobiles have over horse drawn transportation?



Name _____

Early Technology

Answer the following questions.

1. Which form of transportation was wildly popular in the 1890s?

2. Where was the world's first broadcasting station set up?

3. When was the first transatlantic radiotelegraph message transmitted?

4. How much did it cost to buy a new Ford Model T in 1920?

5. What did women activists call bicycles?

6. Which Canadian company started building horseless carriages in 1907?

Match up the following inventor with the statement that describes what he did.

Henry Ford • Alexander Graham Bell • Oliver Lodge • Guglielmo Marconi

7. He was involved in the development of wireless technology. _____

8. He invented the telephone. _____

9. He proved the possibility of radio communication. _____

10. He built his first automobile factory in Canada in 1904. _____



Early Technology

Use the information pages, library resources, and the internet to complete your answers.

1. How did the invention of the steam engine help to advance other forms of technology?

2. Communications Technology

- a) Describe the technology invented by each of these people and its impact on life in Canada. Complete the chart with facts from the article and your own ideas.

Name of Inventor	Their Invention	Its Impact on Canadians
Alexander Graham Bell		
Sir Oliver Joseph Lodge		
Guglielmo Marconi		

- b) "Technology created new jobs and contributed significantly to social and economic changes." How does this statement apply to life in Canada today? Give examples to support your thinking. _____

3. Think about various forms of technology we use today. Pick one (example Google Earth) and then predict what advancements might be made in this device in the next five years. How could it change the lives of everyday Canadians?

Name _____

Think
About It



Early Technology (continued)

4. **Transportation Technology**

Before technology, people either walked, rode horses, or rode in wagons and/or carriages. What were the next two forms of transportation to be used?

5. What were people's first impressions of automobiles?

6. Outline the contribution to the automobile industry of:

a) McLaughlin Carriage Company: _____

b) Henry Ford: _____

7. How did owning an automobile change the life of the average Canadian in the early 1900s?

8. Today the number of cars can create some problems for parts of Canada. Describe some of these problems and make some suggestions for their solutions.

