

2019: What did you learn about the invention and early history of the motor car?

The period of 1870-1914 was one of great scientific development across nearly all disciplines. A defining development in this period of progression was the invention of the motor car by Karl Benz. This essay will examine the birth of the car, its development closer to its modern-day equivalent and its eventual societal impact.

Karl Benz was born in 1844. His father, an engineer, died when Benz was two and, following in his footsteps, Benz graduated with an engineering degree at the age of 19. From there, he tried out various jobs, eventually setting up his first business with August Ritter in 1871. However, the business began to struggle within a year. Fortunately, he met Bertha Ringer, his future wife. The two were married in 1872 and she used her considerable dowry to purchase Ritter's shares in the company. Following this, Benz began to truly pursue his vision of an automobile that would lead to the invention of the motor car.

The pursuit of this vision led to Benz's first great achievement in 1880. This was when he patented a two-stroke gasoline engine. As a result, many investors were drawn to his company. However, when deals ended, Benz was left with just a 5% share and as such resigned. He then partnered with Max Rose and Esslinger to form "Benz and Companie", manufacturing engines. Benz continued to work on his automobile design and eventually finished it in 1885. In 1886, he received a patent for a vehicle powered by a gasoline engine: the first of its kind commercially available to the public. He sold his first model in 1887, releasing improved versions in 1891 and 1895.

Though the automobile was a marked scientific advancement, Benz lacked skill at marketing and many doubted the automobile's utility for ordinary people. All of this changed with Bertha Benz. She drove the first long-distance trip by car, in order to show the invention's purpose and reliability. She drove 66 miles in one day, with no suitable roads at the time or modern fuel stations. Furthermore, Benz brought her two teenage sons with her, to emphasise the safety of the vehicle. Benz stopped to refuel at a pharmacy in Wiesloch, to purchase solvent, which has now dubbed itself the 'world's first gas station'.

During the drive, she even identified some necessary improvements for her husband. Bertha Benz's drive fundamentally altered perceptions of the car, and is now a European Route of Industrial Heritage.

Following the drive of Bertha Benz, perceptions of the motor car shifted to see it as the future, and it experienced great success. The motor car went on sale in both Germany and France- at times selling better in France due to the skilled marketing of Emile Roger. Eventually, Benz's company was the second largest manufacturer in Germany. The 1890s saw several new innovations from Benz, including double pilot steering and a flat engine. In 1892, the Benz Victoria was created. This was followed by the Benz Velo, which became the first large scale production car and sold more than 1,200 models. Benz continued to innovate, also inventing a motorised bus. This was a period of great scientific development for the motor car.

However this situation would evolve towards Benz's later years. His company faced great competition from Daimler-Mercedes. As such, Benz brought in French designers for consultation. In 1903, due to tensions in the company, Benz resigned however he continued to sit on the Board of Directors until his eventual retirement in 1912. Later, Daimler and "Benz & Co" combined production and marketing in 1924, due to a fall in the German economy post-WWI. In 1926, the two brands completely merged into "Mercedes-Benz" causing sales to triple.

The motor car also had a significant effect on society. As the success of the car grew, it began to no longer be seen as a toy for the rich and instead as the future of transport. This led to legislative responses such as the Red Flag Act in 1865, which put in place restrictive speed limits until it was eventually repealed in 1896. The car also had several social and economic impacts. Several spin-off industries emerged such as tyre manufacturing. Better roads were built, and middle-class families used the car to travel to seaside resorts. This further led to ribbon developments, and the first Michelin guidebooks in 1900. Furthermore, assembly-line production increased the efficiency of production and affordability of the motor car for consumers. This was heavily utilised by Henry Ford and in 1926, 15 million "Model T"s were produced in this manner, to the extent that even the factor workers could afford one.

The car also had an important role to play in WWI. Cars, vans and lorries were all used to transfer people, supplies and weaponry. The use of these vehicles was a key factor behind French success in the Battle of the Marne. This demand for, and utility of, the car and similar vehicles increased consumer

demand and the use of assembly-line production. By 1926, every car company strived to provide cars to the general public, rather than only the rich elite.

Karl Benz died in 1929, followed by Bertha Benz in 1944; both lived long enough to see the dramatic impact of Benz's invention on society. The motor car was the result of a series of patents and adaptations. Though it faced initial scepticism, following Bertha Benz's drive it was seen as the future of modern transport. Coming in a time of great scientific development, the car had a marked social and economic impact, leading to greater ease of travel and spin-off industries. Even today, the legacy of the motor car as a key development in science and technology can be seen in many aspects of our daily lives such as commuter towns and motorways, and it is a field continuously developing, with its roots always in its invention and early history.