THE FUTURE AUTOMOBILE (Part 3)

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Lohner-Porsche electric vehicle factory c.1900

Historical Issues that Lead to the Dominance of Internal Combustion Engines

If you were trying to come up with the name of a sports car manufacturer most people would think of Porsche first. The compact beauty, the sleek lines, the power, control, not to mention that the cars Porsche makes just look like they are moving even when standing still. These have been truisms of Porsche from its very beginning. What you may not have known is that Ferdinand Porsche, in order to get that Porsche sports car feeling at the very beginning of his career, made electric cars. Yes. The Porsche of the 1890s was an electric vehicle.

Why electric? Most likely it was because in the 1890s there were three main propulsion systems playing out in the marketplace, electric, steam and the internal combustion engines, and of these the most advanced and stable platform was electric. Electric cars were the speed demons of the time. For example, on April 29, 1899 the Belgian, Camille Jenatzy in a vehicle called the “Jamais Contente” set the first land speed record of 66 mph in a bullet shaped vehicle powered by two, 12 volt motors.[1]

The reason why Ferdinand Porsche started with electric motors was probably because he knew electric motors best having started his career making electric motors at Bela Egger. Ludwig Lohner the head of K & K Royal

Coach Company convinced Ferdinand to move his expertise with electric motors to his new venture, making electric vehicles. The first Lohner-Porsche vehicle had electric motors that were mounted inside the front wheel hubs thereby eliminating the need for a shaft or chains to transfer energy to the wheels. The Lohner-Porsche electric car became the main attraction at the 1900 World's Fair, with its 90-volt batteries and a top speed of 31 miles per hour (mph), a blistering speed for a production car in those days. It also could operate for three hours without stopping, a great advantage over the dominant mode of transportation of the day, the horse.[2]

The First Fight for Market Dominance

The electric car of that period put the internal combustion engine to shame. Electric vehicles had many advantages over their competitors in the early 1900s. They did not have the vibration, smell, and noise associated with gasoline cars. Changing gears on gasoline cars was difficult while electric vehicles did not require gear changes. Steam-powered cars also had no gear shifting, but, they did have other problems. One thing, they suffered from long start-up times of up to 45 minutes on cold mornings. The steam cars had less range before needing water than an electric's range on a single charge. The only good roads of the period were in town, the interstate highway system was 150 years in the future, causing most travel done by automobiles and carriages to be only local, an ideal situation for electric vehicles. The electric vehicle was the preferred choice for many because it did not require the manual effort to start, as with the hand crank on gasoline vehicles, there was no wrestling with a gear shifter and it didn't require you to wait to get a full head of steam.[3]

The First Automobiles

What was the first automobile? I came across an automobile invention made in Russia by an Ivan Petrovich Kulibin, (1735-1818) supposedly in 1752 in the forward of a book called The Complete Encyclopedia of Antique Cars. There was very little information about his supposed vehicle. There was no follow-up detail on this invention in the encyclopedia, nor was there any detail at other sources. Most sources that talked about Kulibin referred to his many other inventions but mentioned nothing of his automobile. He seams to have invented a pedal car with an assisting flywheel. It could very well be that what the encyclopedia was referring to was a three wheeled peddle car. If so, this would not fall under the definition for this study of what an automobile is.

The first automobile is generally attributed to Nicolas-Joseph Cognot of France who made an experimental steam-driven artillery tractor in 1769-70. Steam powered vehicles have a century of improvement and change before the era that we know of as the time when the automobile, as we think of automobiles in modern times, came to being. I will explore steam-powered vehicles in more detail later in the study.

History, unfortunately, when it is written typically belongs to the victors. This is also true with industrial history. Since to this day the dominant form of propulsion has become the internal combustion engine, we tend to look back at the history of independent transportation through those eyes. The date often given to the invention of the automobile is not 1769 but 1886. That is when on January 29, 1886, Karl Benz received the first patent for a gasoline-fueled car, it was a three wheeled vehicle, and on March 8, of that same year Gottlieb Daimler converted a stagecoach with an engine of his own design, thereby making the world's first four-wheeled automobile.[4] However, in actuality when you bring in the other forms of independent non-track based and non-animal or human propelled transportation you find that the there were multiple players in automobiles in the very beginning. Some that predate 1886.

[1] Electric Vehicle Timeline, Newton Public School System, 2003 (Accessed 29 April 2004)
http://www.newton.mec.edu/brown/te/ALTERNATIVE_FUEL/TIMELINE/timeline.html

[2] De La Rive Box, Rob, The Complete Encyclopedia of Antique Cars: Sport and Passenger Cars 1886-1940, (Netherlands, Rebo International b.v. 1998)

[3] Bellis, Mary, Inventors, The History of Electric Vehicles, The Early Years - Electric Cars (1890 - 1930), About.com2 (Accessed April 29, 2004)
http://inventors.about.com/library/weekly/aacarselectrica.htm

[4] Bellis, Mary., Inventors, The History of the Automobile, The Internal Combustion Engine and Early Gas-Powered Cars, About.com (Accessed April 29, 2004)
http://inventors.about.com/library/weekly/aacarsgasa.htm