

The Forgotten Inventor of the Motor Car

11th District (Simmering), Zentralfriedhof

Considering the fact that there are no less than four monuments dotted around Vienna to the memory of nineteenth century inventor Siegfried Marcus, it is surprising that his name is not better known. This is all the more peculiar because Marcus was no ordinary inventor - he is credited by many as being the creator of the mobile internal combustion engine. In other words he invented the motor car!

Siegfried Liepmann Marcus was born in 1831 in Mecklenberg in Northern Germany. His father was a businessman and head of the local Jewish community. It was an age of new inventions and rapid technological progress and the young Marcus would soon be a part of it. Whilst studying at technical school in Berlin he took the chance to work for the firm Siemens and Halske, who were busy erecting Europe's first major telegraph line. It was during this time that Marcus came up with his first invention: the telegraphic relay.

In 1852 Marcus moved to Vienna where, amongst others, he worked for Kraft (official mechanic to the Imperial Court), the Mechanical Institute in Erdberg and the physics department of the military surgeons' training academy (Josephinum) at Währinger Strasse 25. It would not be long before his incredible gift for inventiveness would make him highly sought after.

The sites of two workshops belonging to Siegfried Marcus in Vienna are today marked by wall plaques, namely Mariahilferstrasse 107 in the 6th district of Mariahilf (1860) and Mondscheingasse 4 in the 7th district of Neubau (1890) (see photo 1).

So productive was he during this period that he applied for no less than 38 Imperial charters and is said to have lodged 158 invention patents. Displaying incredible diversity in his interests Marcus can lay claim to the following significant inventions: the incandescent spirit lamp designed at the instigation of the city's scientific community; electromechanical triggers for naval mines used by the military to protect the harbours of Trieste and Venice; the 'Artigraph' used by lithographers and copper plate engravers to prevent the trouble of having to draw their designs reversed; pioneering cinematic equipment known as the Photographie-Revue; not to mention a special whale-hunting knife used by the Austro-Hungarian North Pole Expedition of 1872.



It was only a matter of time before the multi-disciplinary Marcus came to the attention of the Habsburgs. Empress Elisabeth ('Sisi') commissioned him to install an electric bell system in the Hofburg, leading to a long-standing but unsubstantiated rumour that Kaiser Franz-Josef I made Marcus personal physics tutor to his doomed son Crown Prince Rudolf. The Court and State Archives, however, make no mention of Marcus, instead listing one Dr. Krist as Rudolf's teacher.

However, despite the many areas of technological advance in which Marcus was active, the Holy Grail for many inventors of the late nineteenth century was the creation of a mobile engine, one that would replace the horse with horsepower. The best solution to the challenge was undoubtedly what became known as the internal combustion engine. Put simply, energy would be generated within an enclosed space through the combustion of

fuel with air. This in turn would act directly on the driving pistons and cylinders of reciprocating engines that would ultimately power road vehicles, ships and aircraft around the globe. As early as the 1860s Siegfried Marcus had suggested the petroleum distillate Benzine (known as gasoline in America and petrol in Britain) as a suitable fuel. His choice was no doubt in part prompted by the knowledge that the Austro-Hungarian monarchy had been exploiting oil wells in the eastern province of Galicia (now Poland-Ukraine) since the early nineteenth century; indeed, it was there that the world's first oil refinery opened in 1858. It was Marcus too who invented the ignition system needed to ignite the mixture of fuel and air. An 1883 patent taken out by Marcus for his so-called Wiener Zünder ignition system makes mention of "carburing air", so giving rise to the word carburettor, a device by which liquid fuel is prepared for combustion.

Unfortunately, some experts are still undecided as to whether the accolade of inventor of the mobile internal combustion engine should be given to Marcus. There are several reasons for this confusion. On the one hand, several dated documents and photographs suggest Marcus had indeed tested a petroleum engine-powered cart on the streets of Vienna as early as 1870, although that vehicle no longer exists. A second prototype, the so-called Marcuswagen, exists to this day and can be found in Vienna's Technical Museum (Technisches Museum). However, this vehicle, a single-cylinder four-stroke engine, dates from 1888-89 making it a couple of years younger than the early automobiles of the well-known Messrs. Daimler and Benz, who by this time were well on the road to the first commercial production of the motor car. The problem is compounded by the fact that, following the annexation (Anschluss) of Austria with Germany in 1938, most of Marcus's papers were wilfully destroyed by Nazis who found it impossible to accept that a Jew had made such an important discovery.

Marcus had died back in 1898 in his apartment at Lindengasse 4 and been buried in the cemetery at Hütteldorf. His grave too was ruthlessly defiled by his detractors. Thankfully, his Marcuswagen was sealed up for the duration of the war in a cellar of the Technical Museum. The museum's staff were determined that history should not be re-written by the city's new occupiers. Although the car survived, the memory and legacy of Siegfried Marcus, about whom all Austrian schoolchildren had been taught before the war, was all but expunged.



Thankfully, on the 50th anniversary of his death, the inventor's remains were transferred to a new honorary tomb (Ehrengräber) in Simmering's Central Cemetery (see photo 2).

A bust of Marcus was also erected in Resselpark, just in front of the Technical University, reminding historians, technicians and passers-by alike that the German Jew, who adopted Vienna as his second home and who brought such technological expertise and fame to the city, should never again be forgotten.

(Note: the monument in Resselpark gives an incorrect date of 1864 as being the year in which Marcus created his first engine-powered cart: as noted above, the correct date is 1870.)

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