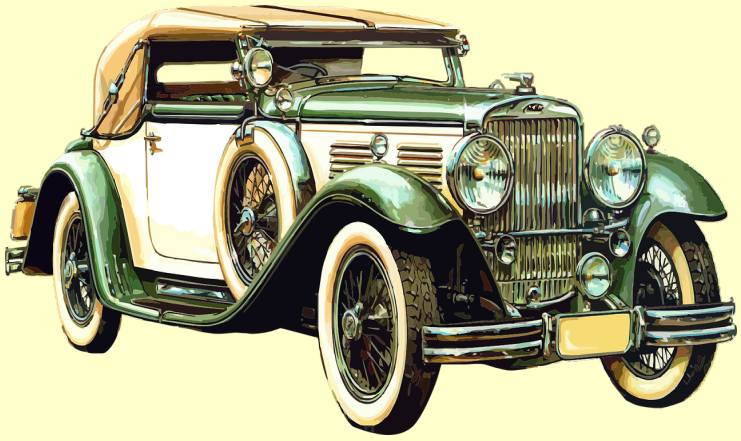
HOW WAS IT REALLY MADE?

I remember one day, we were having a history of philosophy course in university. Our professor asked us to look out through the window and tell him what we were seeing.

"Cars" said one of my colleagues.



"A Philosopher," said my professor "doesn't see just a car. He sees inventions, thousands of years of development."

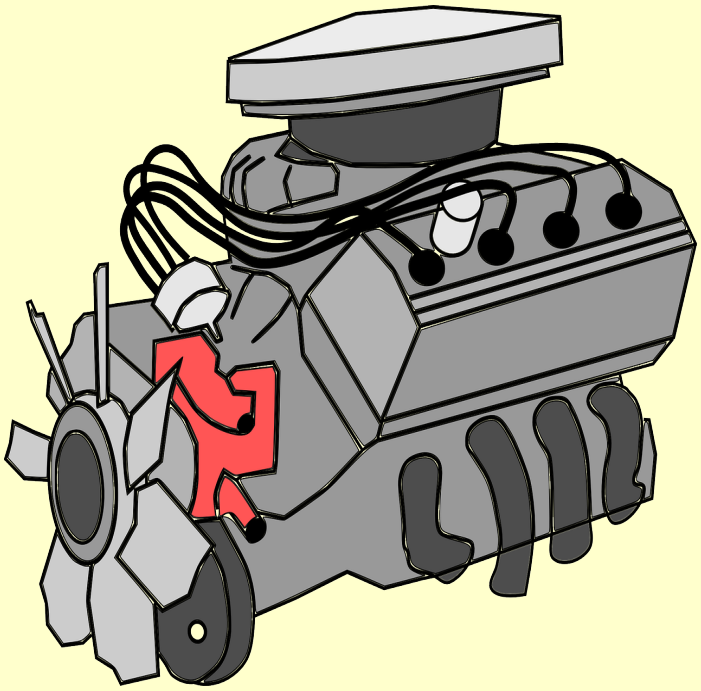
Well, I know it sounds a bit snobbish. OK, not a bit. But it raised some thoughts. This really wasn't just a car, something that helps you to go from point A to point B. It really was all human's development through centuries

and so many inventions, so many celebrations because of different discoveries. And I just used it everyday like it was not a big deal. It is a big deal. It is astonishing. We will very quickly go through some of the elements of the cars, when were they discovered and by who.

So we will take one simple car, powered by gasoline engine. Nothing fancy, just a radio in. We will not discuss the computers that they have all now, because it will take too long.

One car is made of iron or aluminum, plastic, it has tires, gasoline engine, battery, transmission, radio. There are tons of other things (sometimes literally) in one car, but we will discuss just those from above.

Let's start with the gasoline engine. While attempts to devise heat engines were made in ancient times, the steam engine of the 18th century was the first successful type.



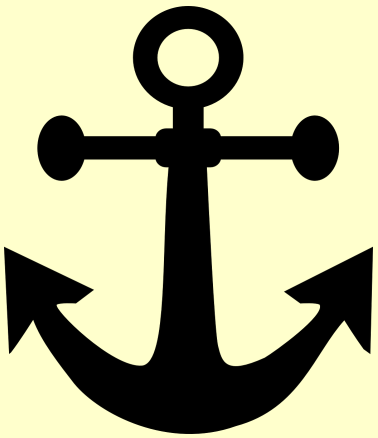
The internal-combustion engine, which followed in the 19th century as an improvement over the steam engine for many applications, cannot be attributed to any single inventor. In 1884 Gottlieb Daimler and Wilhelm Maybach, former associates of Otto, developed the first successful high-speed four-stroke engine and invented a carburetor that made it possible to use gasoline for fuel. They employed their engine to power a bicycle (perhaps the world's first motorcycle) and later a four-wheeled carriage. At about the same time, another German mechanical engineer, Karl Benz, built a one-cylinder gasoline engine to power what is often considered the first practical automobile.

That wouldn't be possible to happen if chemist James Young hadn't noticed a natural petroleum seepage in 1848 in the Riddings colliery at Alfreton, Derbyshire from which he distilled a light thin oil suitable for use as lamp oil

and if Edwin Drake didn't dig a 69-foot (21 m) oil well in 1859 in Titusville, Pennsylvania.



What about the iron and aluminum. Archeologists believe that iron was discovered by the Hittites of ancient Egypt somewhere between 5000 and 3000 BCE.





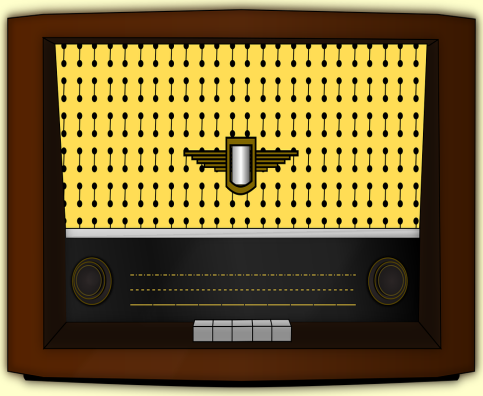
During this time, they hammered or pounded the metal to create tools and weapons and a pure form of the metal aluminum was first successfully extracted from ore in 1825 by Danish chemist Hans-Christian.

And tires? While designs vary by product and manufacturer, an average tire contains well over 100 separate components.



Tires can include natural rubber, synthetic rubber, steel, nylon, silica (derived from sand), polyester, carbon black, petroleum, etc. First identified and collected in Central and South American in about 1600 B.C.E., the earliest rubber was mainly used for games. Harvested from a plant, these ancient peoples formed balls with the

substance, and used these balls for primitive bouncing games. The first serious accounts of rubber production and the primitive Native American system of manufacture were given in the 18th century by Charles-Marie de La Condamine. Industrial demand for rubber-like materials began to outstrip natural rubber supplies by the end of the 19th century, leading to the synthesis of synthetic rubber in 1909 by chemical means.



And the radio. The first edition of radio was patented in 1896 by Guglielmo Marconi. Marconi was a pioneer of wireless telegraphy.

I will let you do your own research about transmission and battery in order not making this too long. But you get the point. So many years and so many people are included in this. The invention, that takes us to school or work. Can you imagine the joy in all those people's eyes? The hard work, the mistakes, the difficulties they faced? May be some of them were surrounded by people, telling them they are crazy. Or may be they have created enemies. It's fascinating.

Now, if you are interested I invite you to do your own research for something you choose and find interesting. May be a telephone, a computer, a microwave oven. There are countless of things around us. And all they hold such a history.



I will wait for you to

share your research. Have fun!