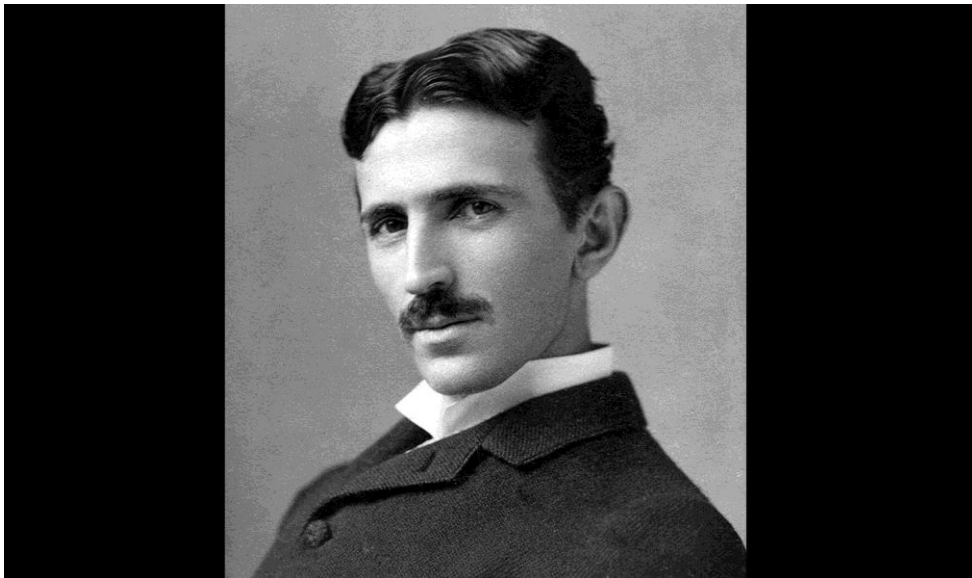


Nikola Tesla

(approx. 10 minutes)



Nikola Tesla 1890

Everybody knows what a Tesla car is but almost **nobody** knows who Nikola Tesla really was and why his name had been chosen for the brand name of these cars.

He was a **genius and spiritual leader** and **with his ideas far ahead of his times**.

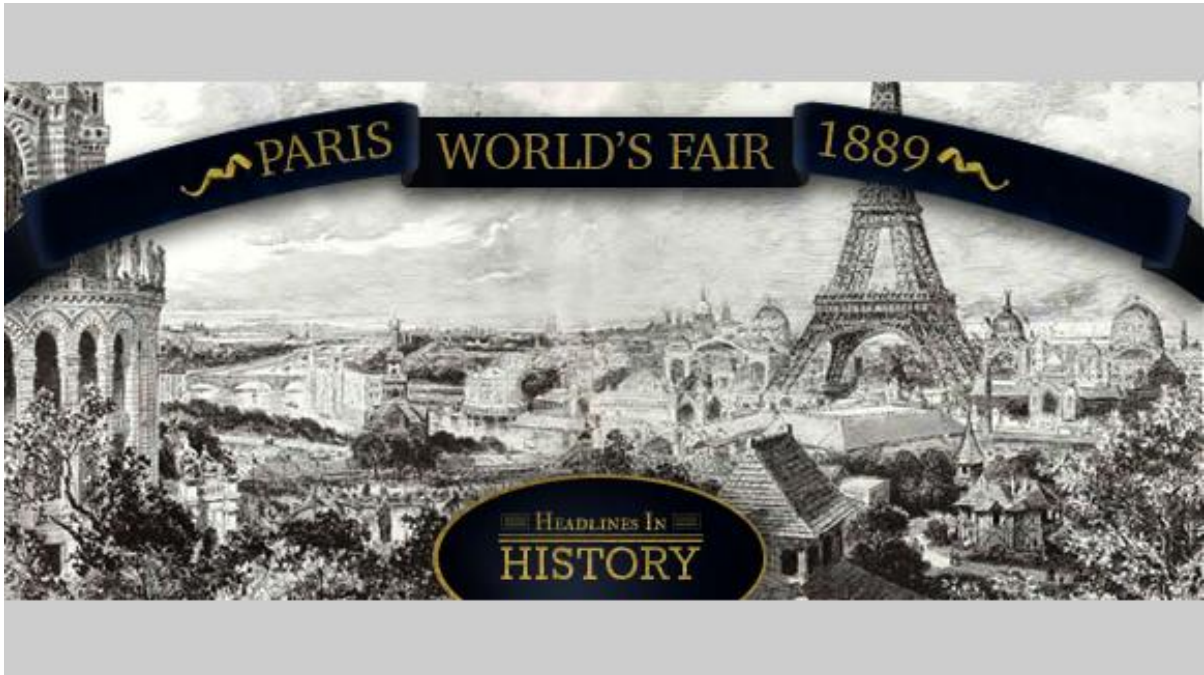
With his alternating current system invention **he layed the foundation of the second Industrial revolution** and was an architect of our modern day-civilisation.

Nicola Tesla was a **very popular scientist and inventor**. He was born in Smiljan, Croatia in the year 1856 and died 1943 in New York.



1870 - 1943

After his studies, which brought him to Germany, too. He **emigrated to the United States of America** immediately after the world's fair 1889 in Paris where he had been hired by Edison. Edison wanted him to improve his direct current system and the DC-motors in view of reliability and efficiency. This power system was in use around 1900 but wasn't very efficient.



world exhibition Paris

As he didn't like the direct current system, he **invented the alternating current system, a much more efficient system** which is still the power-system of today. In a next step he built the **first alternating current motor**.



AC motor

Now he **became a competitor to Edison**, who was fiercely defending his existing direct current system and finally forced him to leave and **start his own business**.

Tesla **got from George Westinghouse the money** to produce these engines and to build 1895 the **first alternating current power plant on earth** at Niagara Falls delivering up to 78 Mega Watts and the **necessary distribution network**.



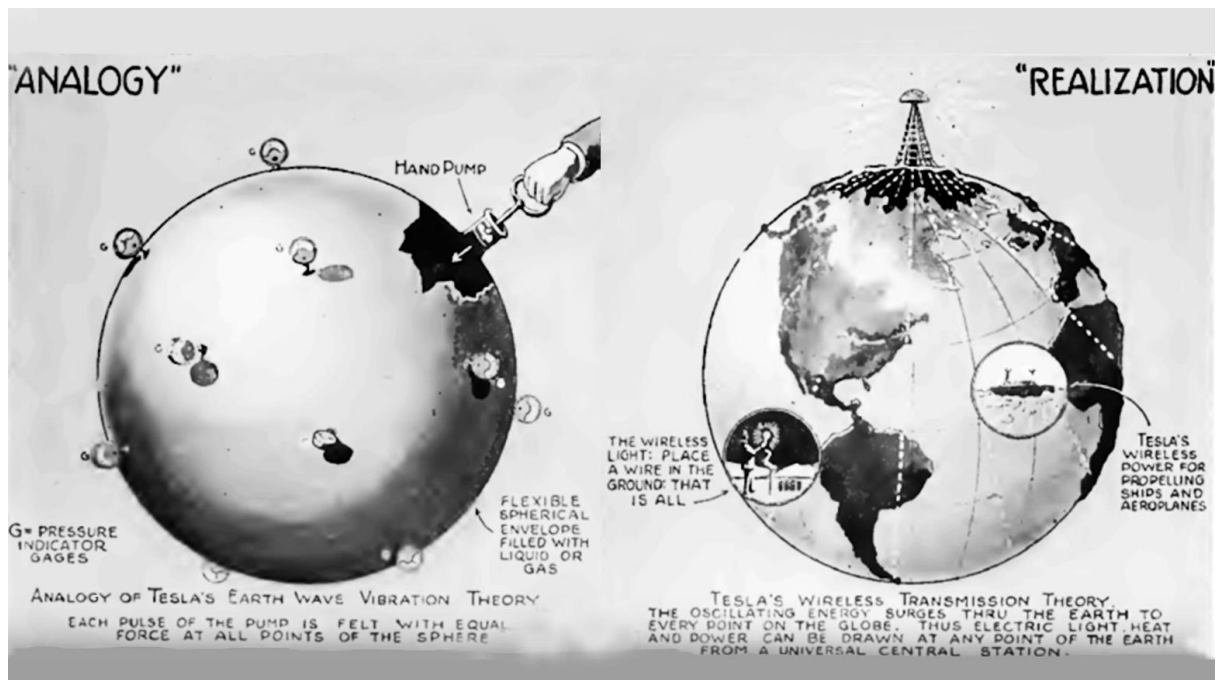
AC power station

In the years before 1900 Nikola Tesla wanted to develop a **system for wireless transmission of energy** in order to make energy freely available to everyone and everywhere in the world.



Tesla's studies

He invented the theory of **earth wave vibration**. In his vision the earth was one closed system which was able to carry earth waves to every place on the ball.



Tesla's Earth Wave Vibration theory

During his studies and experiments **he found the effects of resonance**. An effect which occurs on mechanical elements and electrical circuits.

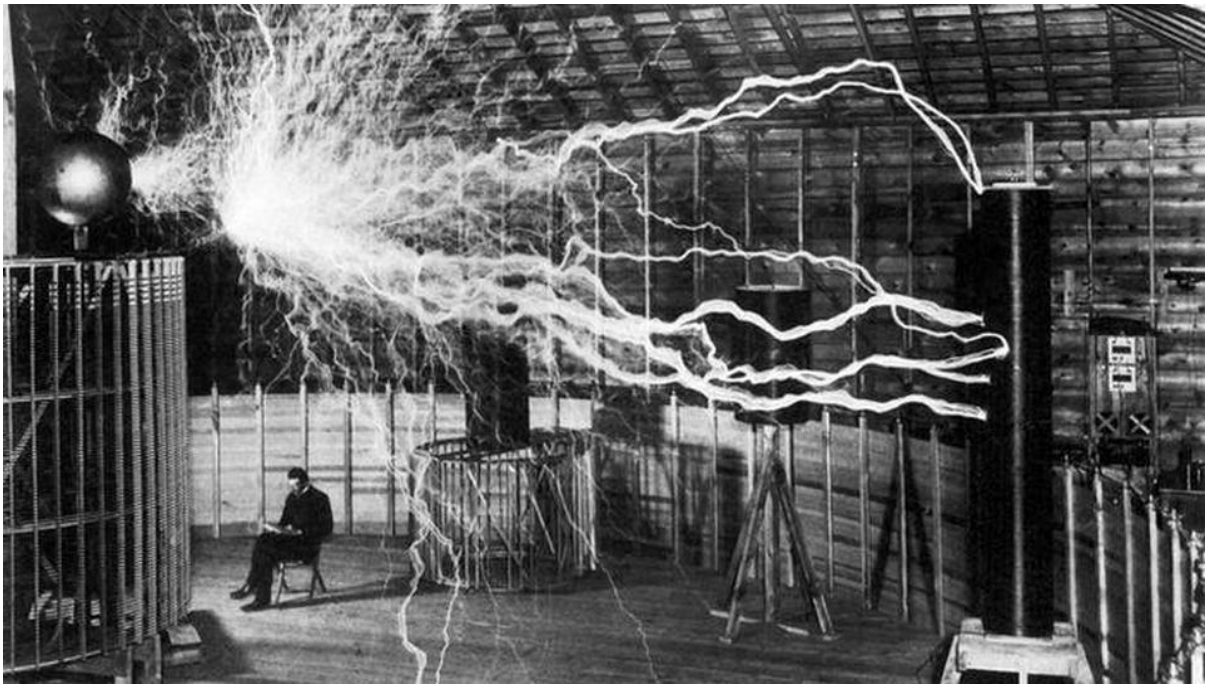
He built **mechanic generators which were able to produce earth waves**. But he had to stop these experiments very quickly as the **walls of his laboratory got in resonance and started to break down**.

Then he modified his visions towards electrical circuits and built **tesla coil transformers** in order to get electro waves. These large coils were able to **bring special light bulbs to shine and send huge flashes through the air**.



Tesla's Coil Transformer

A very impressive thing to see.



Tesla's laboratory

In the last years I **rebuilt two examples of such Tesla Transformers** which worked very well. The results may be seen in a video on my website "projekte.zawadi.ch".

During this time period he found the **basis of the high frequency technique** and created all the necessary formulas and technical terms as **frequency, resonance and modulation**.

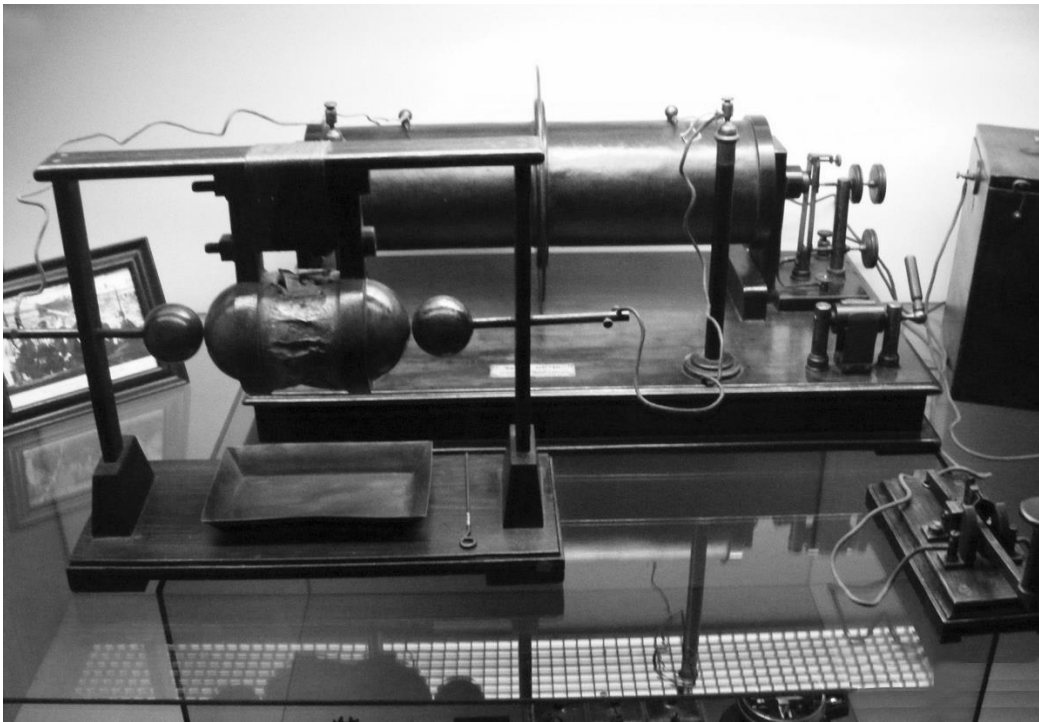
At the end of 1901 he **patented a first system for wireless transmission** and built the Wardenclyff Tower.



Wardenclyff Tower

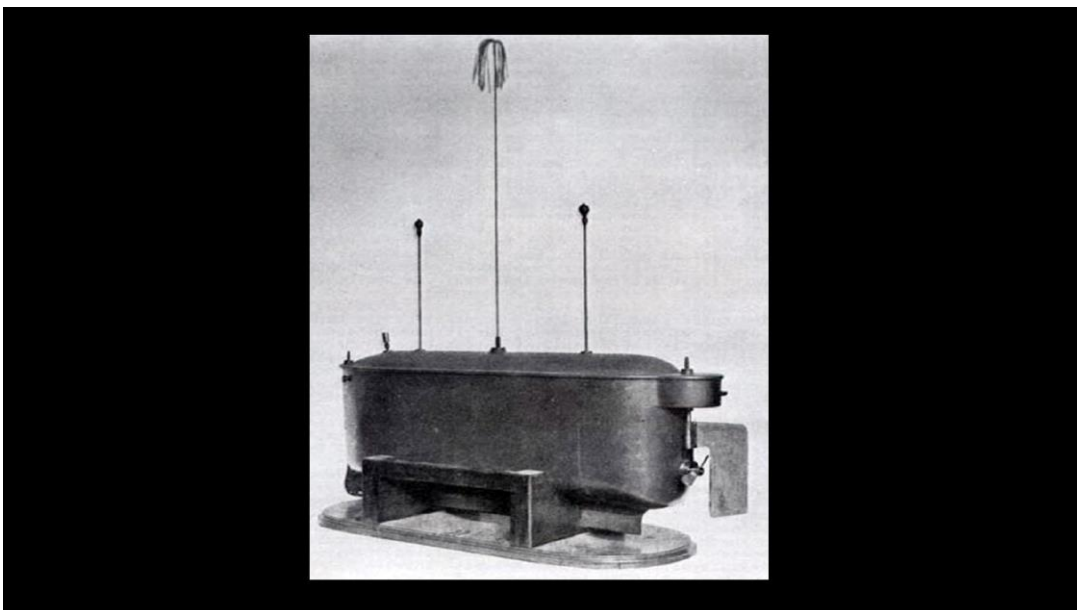
Unfortunately the **Wardenclyffe Tower experience based only on wireless transmission of power energy**. The wireless transmission of Information was completely neglected which led to false results. This finally brought the collapse of that vision. As a matter of facts the Wardenclyffe tower had never been finished and Tesla's researches were slowed down massively.

Therefore **the Italian Marconi was faster** in building a system which could send messages from ship to ship and over the Ocean and won the race!



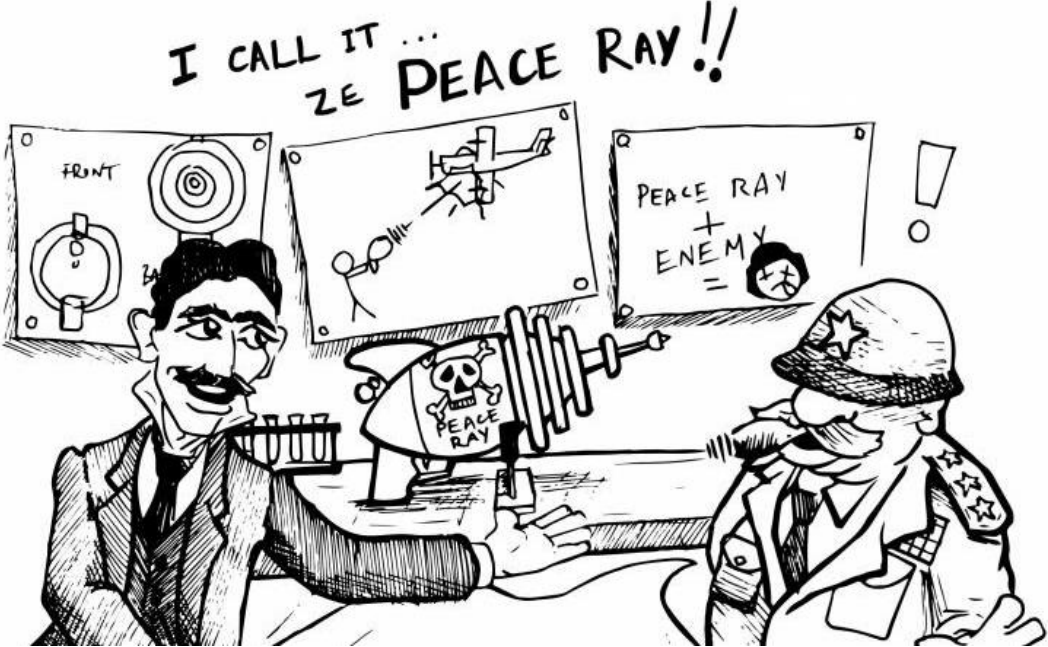
Marconi's Transmitter

This was very bad for Tesla's reputation and he was forced to find a way to improve it again. Now he built a **first wireless controlled boat** which was of course a sensation and very interesting for the army. It opened him access to the Military Department.

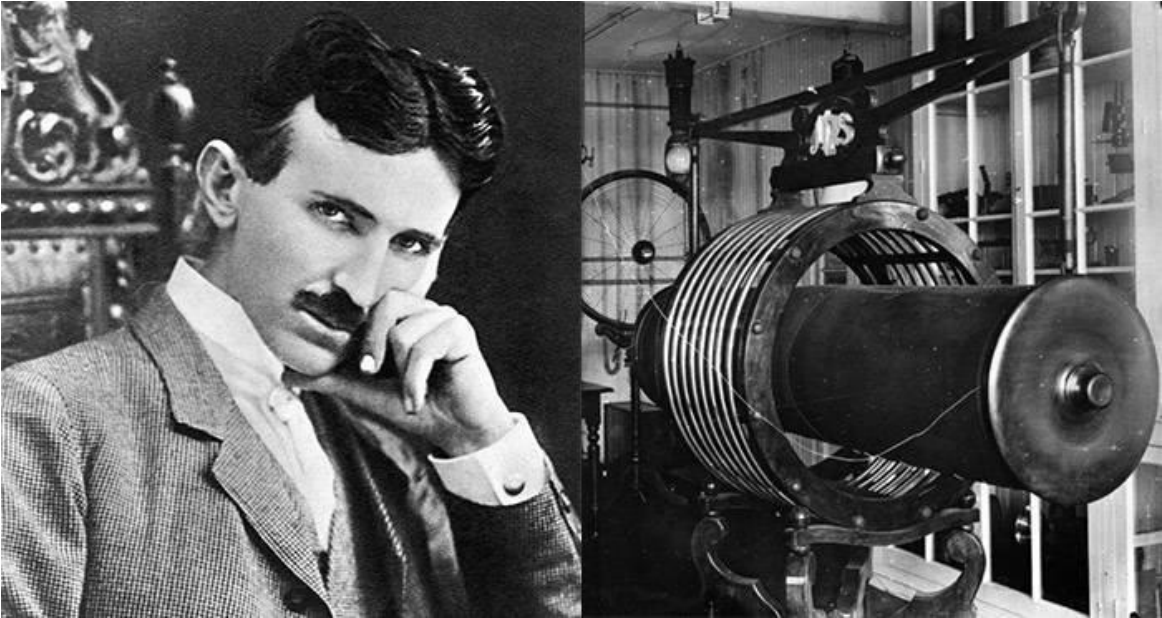


wireless controlled boat

From now on he worked mostly for the army and invented among other things a special transmission system for submarines, a first generation of LASER weapons and a lot more secret or unknown things.



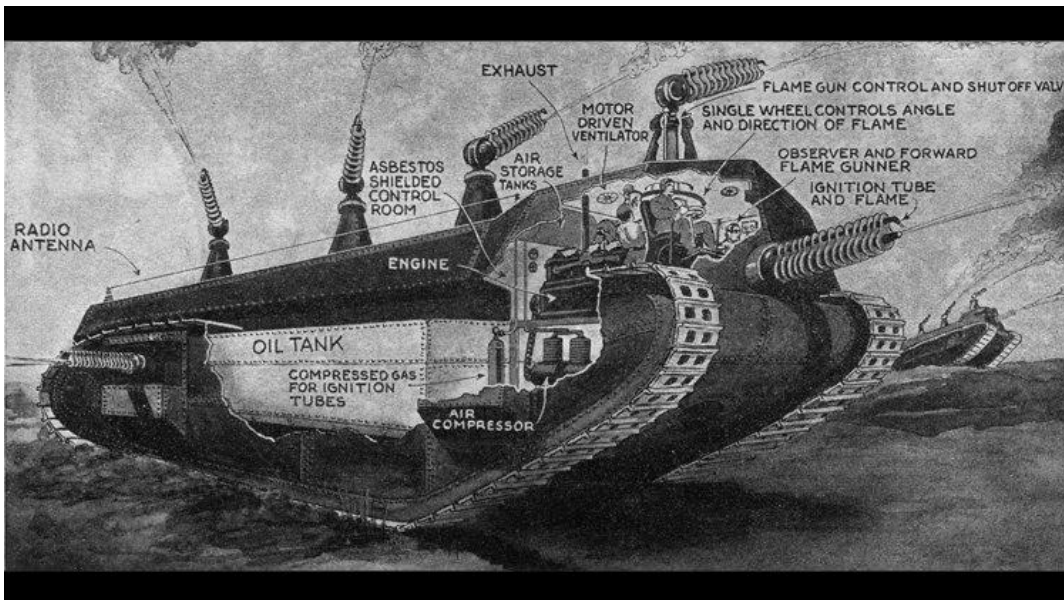
News picture



Laser gun



Defend system



Battle vehicles

Unfortunately all **these developments became military secrets** and as a matter of facts **Nikola Tesla got completely forgotten.**

During the second world war, **in the year 1943 he died as an unknown and poor man** in a hotel in New York.

After his death **Nikola Tesla was honored for his great legacy** for physics and **his name was chosen as a unit for the power of an electrical field.**

~~Here an example to illustrate one Tesla:~~

1 Tesla is equal to the attraction of 1 Newton on a 1 meter long electrical conductor, which conducts a current of 1 Ampere.

Some years after his death his handwritten notes appeared and showed more about his hidden works. There - among other things - **they found the following, very interesting predictions on wireless transmission** from him made in **the year 1926**:

“When wireless is perfectly applied the whole earth will be converted into a huge brain, which in fact it is, all things being particles of a real and rhythmic whole. We shall be able to communicate with one another instantly, irrespective of distance. Not only this, but **through television and telephony we shall see and hear one another as perfectly as though we were face to face**, despite intervening distances of thousands of miles; and the instruments through which we shall be able to do this will be amazingly simple compared with our present telephone. **A man will be able to carry one in his vest pocket**”

Sounds very familiar, doesn't it?

And that is the end of the presentation!