AWESOME stories

THE WORLD'S FIRST BATTERY

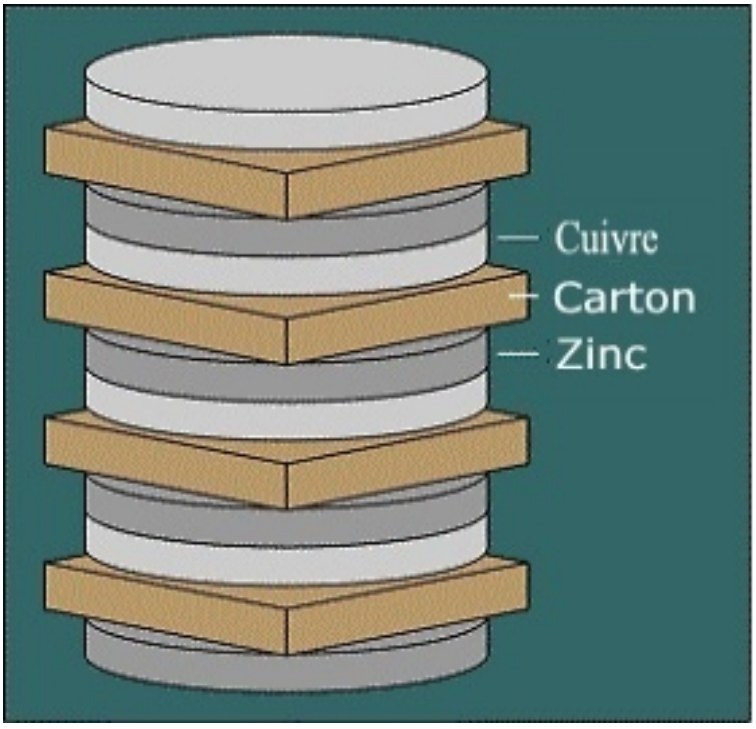
Alessandro Volta made the world's first battery, known today as the "Voltaic Pile." This image depicts a Voltaic Pile on display in the Volta Temple (in Como, Italy). The photo was taken by Johnnyb11. License: CC BY-SA 3.0

Alessandro Volta believed that electricity, which made a frog's leg twitch, came from outside (not inside) the frog's body. To further test his theory, Volta stepped back in time, returning to the papers of Henry Cavendish.

What particularly attracted Volta to Cavendish was Henry's work with Torpedo Fish. Was there something about the make-up of the fish which produced intense shocks as the fish pursued its prey?

Examining the fish's chambers, Volta began to wonder whether the fish's physical make-up was causing it to emit electricity. To test his theory, Volta took a copper metal plate and then, above it, he placed a card which was soaked in diluted acid. He placed another piece of metal on top.

Then he repeated the process, building a pile of metal. His invention was actually known as "the pile."

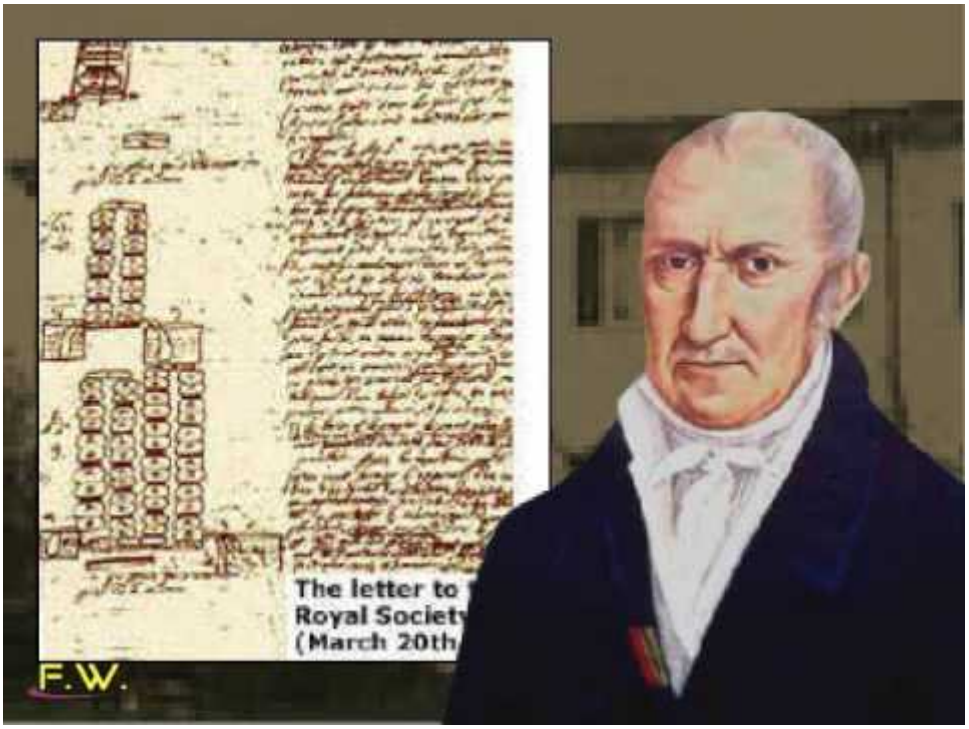


Volta tried-out the pile on himself.

He placed its two different wires in his mouth. Once again, he could actually "taste" the electricity, but this experiment produced a *different* result (from his earlier efforts). The electricity produced by Volta's pile was *constant*, not intermittent. What Volta had actually created was the first source of constantly produced electricity ... the battery.

He'd proven that a machine, imitating a torpedo fish, could produce electricity. He had developed all the phenomena of animal electricity without any animals being present. In short, Volta produced something which completely mimicked Galvani's experiments with one major difference: Volta's device produced *continuous*, not intermittent, electricity.

Not only was Volta's device producing continuous electricity, the electricity was *pouring* out of his homemade battery. And ... just like water flowing in a stream is called a current, so the stream of electricity, flowing out of Volta's pile, became known as an "electrical current."



Two hundreds years after Volta, we now understand what electricity is. The atoms in metals have electrically charged electrons surrounding a nucleus. But in metals, the atoms *share* their outer electrons with each other in a unique manner. That means they can *move* from one atom to the next.

If those electrons move in the same direction, at the same time, the cumulative effect is the movement of an electric charge. This flow of electrons is known as an "electric current."

The stage was now set for some more really interesting experiments.

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http://www.awesomestories.com/asset/AcademicAlignment/THE-WORLD-S-FIRST-BATTERY

See Learning Tasks for this story online at:
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Media Stream

Alessandro Volta

Image described above, by an unknown artist, is online courtesy Alessandro Volta, an Italian-language website.

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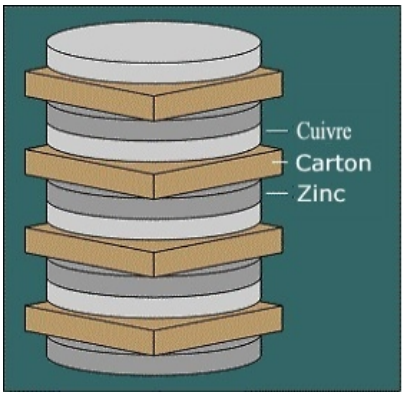

Voltaic Pile

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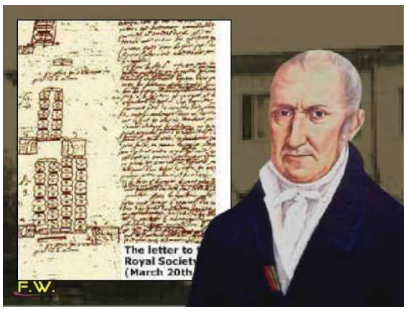

Volta and His Royal Society Letter

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Discovering Electricity - Torpedo Fish

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