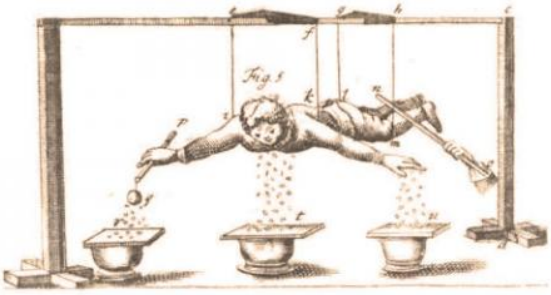
EARLY EXPERIMENTS



Stephen Gray premiered his “Flying Boy” experiment in London during 1730. This image—a plate from a German-language text—depicts how an 8-year-old boy was suspended across a swing supported by silk ropes. With a negative electrical charge applied to his face and hands, the child was able to “magically” attract lightweight objects such as gold leaf and feathers. At the time, no one understood why this phenomenon could occur. Image online, courtesy Interactive Architecture.

Putting together a demonstration, to display the phenomenon of moving electricity, Stephen Gray fashioned a swing supported by silk ropes. He would employ the swing in a kind of “magic show.”

Using a young boy, lying horizontally across the swing, Gray had the child charge his hands with static electricity. The boy then placed his static-electrically charged hands over pieces of gold leaf and feathers. As if by magic, the young demonstrator attracted the gold leaf and feathers to his hands.

It was another amazing experiment which fascinated observers. Gray had discovered important concepts about electricity:

- Some items - such as metal - could not hold an electrical charge. Electricity would flow through the metal, meaning that it was an electrical-charge *conductor*.

- Other items - such as hair, glass and silk rope - could hold an electrical charge, meaning those items were electrical-charge *insulators*.

This was a crucial distinction. Insulators keep electricity from leaking, an important fact even in today’s world.

Gray’s work led to other questions.

- Did electricity flow, like water?

- Could electricity be stored?

- If electricity could be stored, how could it be controlled?

In the town of Leiden (Leyden), The Netherlands—sometime between 1745-1746—a Professor named Pieter van Musschenbroek invented a way to test those (and other) questions.

See Alignments to State and Common Core standards for this story online at:
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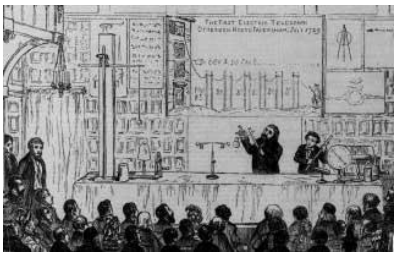

Stephen Gray Lectures at Charterhouse

Image online, courtesy the Sorbonne.

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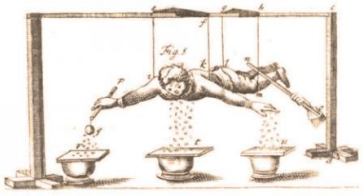

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Discovering Electricity - Early Experiments

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