

Conductors and insulators

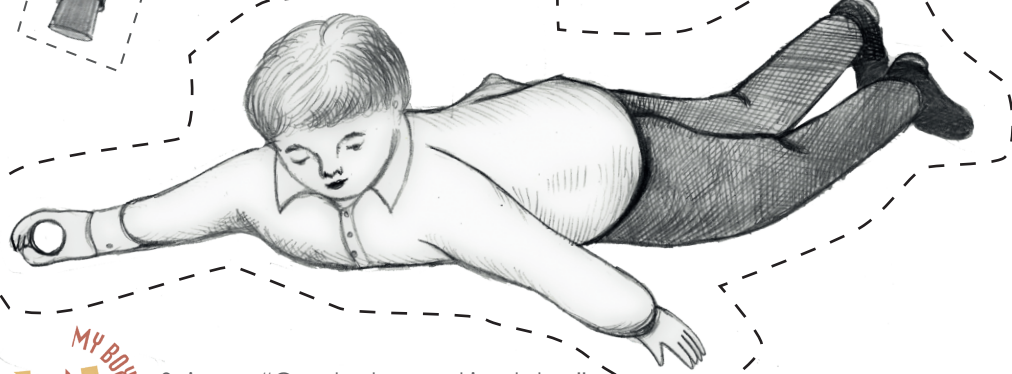
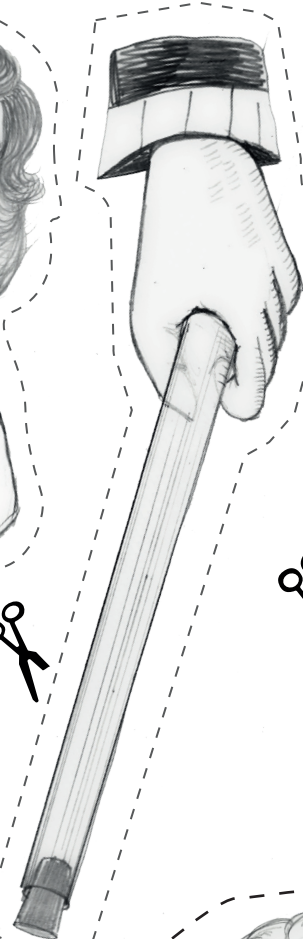
1729



GRAY



NEWTON



STEPHEN GRAY

Canterbury,
26 December 1666
London,
15 February 1736

ISAAC NEWTON

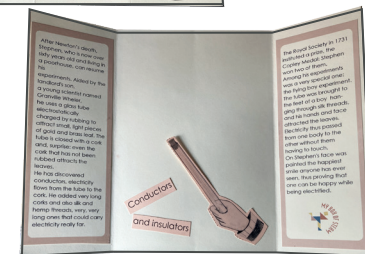
Woolsthorpe Manor,
4 January 1643
London,
31 March 1727



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CONDUCTORS AND INSULATORS

ELECTRIFIED BY HAPPINESS_STEPHEN GRAY

(Canterbury, 26 December 1666/London, 15 February 1736)

Can one be happy by being electrified?

Well, perhaps, as this story will show you.

The protagonist of this story is a man named Stephen Gray. He was born into a very poor family of fabric dyers and studying is a luxury. Stephen works as a dyer but is passionate about science. He has many friends, some of them some are rich and lend him their books. At first Stephen is interested in the stars, in astronomy. With his friend John Flamsteed (who is yet another great and unfortunate scientist whose work went almost unnoticed), he works on a map to locate the stars. However, despite his hard work, Stephen did not receive any money from it.

Stephen then became interested in electricity, did some experiments and made some discoveries (such as the electrostatic repulsion), which he could not publish. Isaac Newton is the president of the Royal Society, he does not like Flamsteed at all, and consequently neither does he like Stephen. Therefore, Newton prevents his discoveries from being published.



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After Newton's death, Stephen, who is now over sixty years old and living in a poorhouse, can resume his experiments. Aided by the landlord's son, a young scientist named Granville Wheler, he uses a glass tube electrostatically charged by rubbing to attract small, light pieces of gold and brass leaf. The tube is closed with a cork and, surprise: even the cork that has not been rubbed attracts the leaves.

He has discovered conductors, electricity flows from the tube to the cork. He added very long corks and also silk and hemp threads, very, very long ones that could carry electricity really far.

The Royal Society in 1731 instituted a prize, the Copley Medal: Stephen won two of them. Among his experiments was a very special one: the flying boy experiment. The tube was brought to the feet of a boy hanging through silk threads, and his hands and face attracted the leaves. Electricity thus passed from one body to the other without them having to touch. On Stephen's face was painted the happiest smile anyone has ever seen, thus proving that one can be happy while being electrified.

