

1752 ♦ Go Fly a Kite!

There wasn't one thing in this world that wasn't interesting to Benjamin Franklin. He took delight in all things and inquired into their workings and their meanings. Science, philosophy, natural history, politics, journalism, mechanical engineering, art, diplomacy—every day was a new challenge for the great mind of Pennsylvania.

Take electricity, for instance. Science had only begun to penetrate the mysteries of electricity, and there was much that remained unknown. Some of the greatest scientists in Europe and the American colonies were scratching their heads over this strange phenomenon, and there were many theories about it. Whenever someone published an article about an electrical experiment, Franklin was sure to read it.

And he had some ideas for experiments of his own. He knew something about static electricity, which could be produced by friction. And he had some Leyden jars, devices for storing an electrical charge. He decided to see how violent a shock he could produce with the electricity in a Leyden jar. A few days before Christmas, he invited some of his scientific friends to dine.

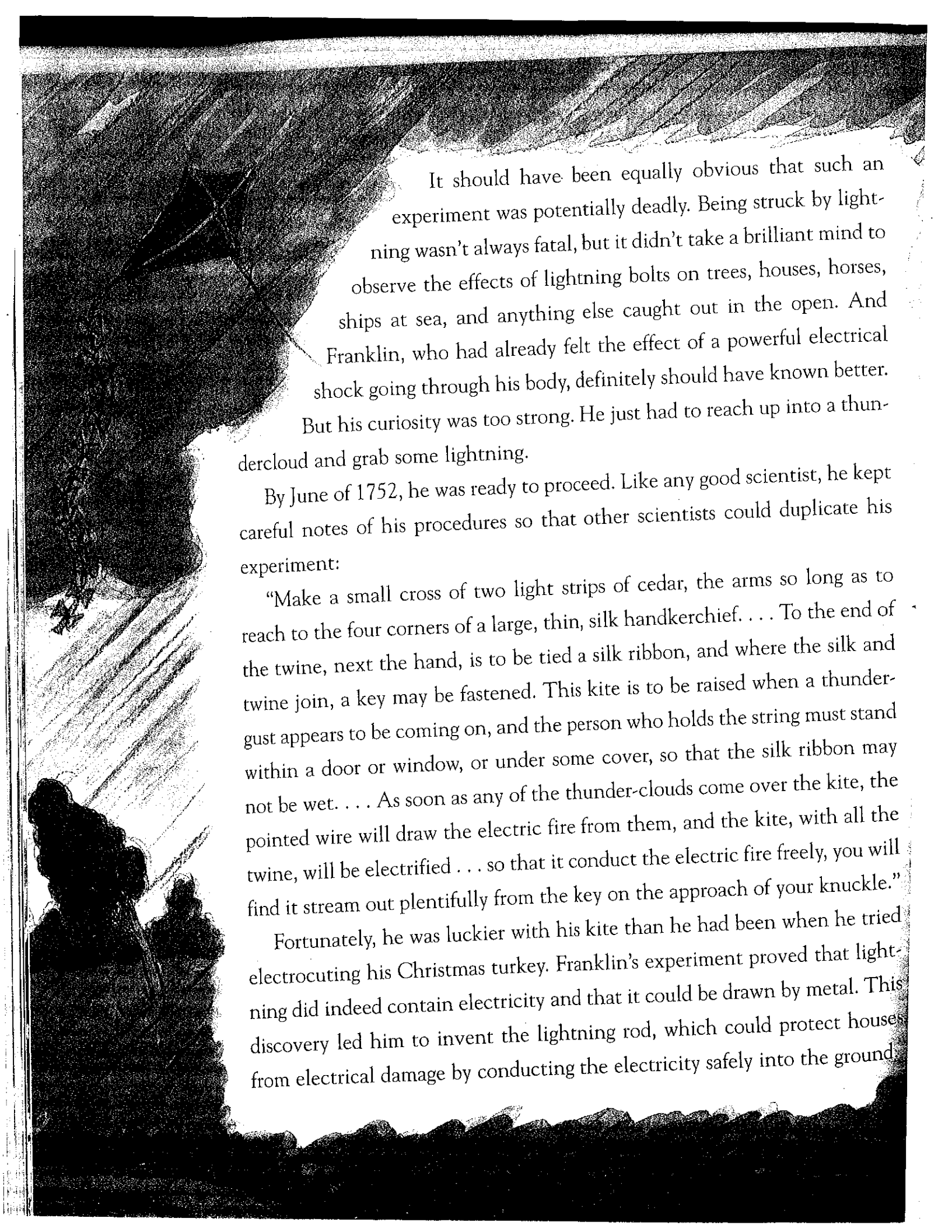
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...ained a remarkable demonstration. But it didn't go exactly
...plan.

...about to kill a turkey by the shock from two large glass jars," he
...his memoirs, "I inadvertently took the whole through my own arms
...by receiving the fire from the united top wires with one hand while
...other held a chain connected with the outsides of both jars. The com-
...my present (whose talking to me, and to one another, I suppose occasioned
...my inattention to what I was about) say that the flash was very great and the
...ack as loud as a pistol; yet, my senses being instantly gone, I neither saw
...the one nor heard the other."

An ordinary person might have been frightened away from more experi-
ments with electricity, but not Ben Franklin. It was quite obvious to scien-
tists by now that lightning was electrical, and he was determined to capture
some of that fire from the sky and measure it.





It should have been equally obvious that such an experiment was potentially deadly. Being struck by lightning wasn't always fatal, but it didn't take a brilliant mind to observe the effects of lightning bolts on trees, houses, horses, ships at sea, and anything else caught out in the open. And Franklin, who had already felt the effect of a powerful electrical shock going through his body, definitely should have known better. But his curiosity was too strong. He just had to reach up into a thundercloud and grab some lightning.

By June of 1752, he was ready to proceed. Like any good scientist, he kept careful notes of his procedures so that other scientists could duplicate his experiment:

"Make a small cross of two light strips of cedar, the arms so long as to reach to the four corners of a large, thin, silk handkerchief. . . . To the end of the twine, next the hand, is to be tied a silk ribbon, and where the silk and twine join, a key may be fastened. This kite is to be raised when a thunder-gust appears to be coming on, and the person who holds the string must stand within a door or window, or under some cover, so that the silk ribbon may not be wet. . . . As soon as any of the thunder-clouds come over the kite, the pointed wire will draw the electric fire from them, and the kite, with all the twine, will be electrified . . . so that it conduct the electric fire freely, you will find it stream out plentifully from the key on the approach of your knuckle."

Fortunately, he was luckier with his kite than he had been when he tried electrocuting his Christmas turkey. Franklin's experiment proved that lightning did indeed contain electricity and that it could be drawn by metal. This discovery led him to invent the lightning rod, which could protect houses from electrical damage by conducting the electricity safely into the ground.

Franklin's intellect was put to another important use in 1776. And by the time he proposed the turkey as the national symbol, as it was plentiful and good to eat, and no one could kill it, that is.

