

stroy! If there is no other use discovered of electricity, this however is something considerable, that it may help to make a vain man humble. I must now request that you would not expose those letters; or if you communicate them to any friends you would at least conceal my name."⁶ In a letter dated 1 September, he began: "The necessary trouble of copying long letters which perhaps, when they come to your hands, may contain nothing new or worth your reading (so quick is the progress made with you in electricity) half discourages me from writing any more on that subject."⁷ Yet again he wrote at some length, this time brilliant observations on the Leyden jar, which was still mysterious. Then public affairs, particularly the defence of the province against the French, claimed him, and for a year he had little time for science. But on 29 September 1748 he had retired from his printing business and moved to his new house at the corner of Race and Second Streets, and could write to Cadwallader Colden: "I am in a fair way of having no other tasks than such as I shall like to give myself and of enjoying what I look upon as a great happiness: leisure to read, study, make experiments, and converse at large with such ingenious and worthy men as are pleased to honour me with their friendship or acquaintance."⁸ The winter of 1748-49 was as fruitful as that of 1746-47.

In the report to Collinson of 29 April 1749 Franklin, continuing his observation on the Leyden jar, first pointed out the great part played by the dielectric—the glass—and told of making, for the first time in history, "what we called an electrical battery, consisting of eleven panes of large sash-glass, armed with thin leaden plates pasted on each side, placed vertically and supported at two inches' distance on silk cords, with thick hooks of leaden wire, one from each side, standing upright, distant from each other, and convenient communications of wire and chain from the giving side of one pane to the receiving side of the other; that so the whole might be charged together and with the same labour as one single pane."⁹ How important these matters were he could not know. He gave nearly as much space to telling of devices he and his friends had worked out to astound the curious. "Chagrined a little that we have been hitherto able to produce nothing in this way of use to mankind, and the hot weather coming on when electrical experi-

ments are not so agreeable for this season, somewhat the banks of Schuylkill. Sp a spark sent from side to s conductor than the water since performed, to the a killed for our dinner by electrical jack, before a fir the healths of all the fa France, and Germany are t the discharge of guns from

Later that year Franklin to keep of the experiment I purposed to make. . . . with lightning in these p the light. 3. Crooked di ducted by metals. 6. Craci water or ice. 8. Rending animals. 10. Melting met 12. Sulphureous smell. Th do not know whether this agree in all particulars wh not probable they agree l made."¹¹ Other scientists l ning was electricity. He se

A use for the discover have been more than a fe Collinson sent to the Gen it has eluded Franklin's e the experiments of points fire, which has not been supply in my next. For th the effects of them truly w on experiments, I am of c ers and churches may be lightning by their means; or metal which are comm vanes, or spindles of chur