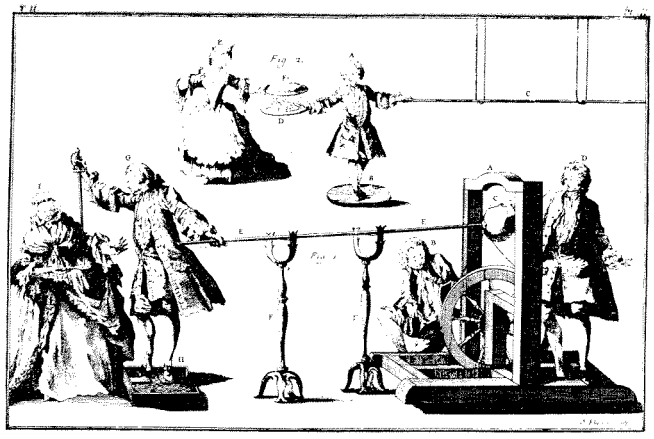
THE HEYDAY OF ELECTROSTATIC EXPERIMENTATION



Electrical experimentation in the seventeen forties

By E. C. WATSON

PARK BENJAMIN, in *The Intellectual Rise in Electricity* (London, 1895), gives an entertaining account of the popular interest in electrical experimentation that sprang up about the middle of the eighteenth century.

In the year 1742, he writes, "a singular and sudden interest in things electrical" arose in Germany, and "swiftly reached a stage of feverish enthusiasm."

"When it came to be noised about that the strange radiance which the English and French philosophers were exhibiting was fire,—fire which flamed in jets from the ends of rods, or, more wondrous still, leaped from the tips of men's fingers—that was a matter for everyone's personal concern. For fire was then believed to be a material substance—phlogiston—and while perhaps it might exist in iron bars and inanimate things of that kind, and be forced visibly to come out of them by friction, as well as by heating, no one had ever supposed that it resided in the human body and could be compelled to escape, with an accompaniment of sparks and crackles, from one's person. It was the idea of a human being becoming such a torch that stirred the Teutonic mind to its profoundest depths.

". . . It is doubtful to whom is due the credit of accomplishing the work which began the new era; some contemporary writers according it to Christian August Hansen, others to George Matthias Bose. . . .

". . . Both Hansen and Bose found, at about the same time, that not only could a practically continuous supply of electricity be obtained [with a glass sphere mounted lathe fashion and rotated rapidly by means of a crank-wheel and belt], but one of much greater strength than had hitherto been known.

"Hansen suspended a boy with his toes in proximity to the globe, and drew sparks from his fingers. Bose disposed twenty soldiers in line, with hands touching and administered a shock to all of them at once . . .

"No one knew better the art of playing to the gallery [than Bose]; in fact, in the great electrical drama he created the part of the 'modern wizard,' and it is doubtful whether anyone since has ever excelled him in it.

He set jets of fire streaming from electrified objects and exhibited them to the people who flocked to his laboratory. He invited guests to an elegant supper-table loaded with silver and glass and flowers and viands of every description, and, as they were about to regale themselves, caused them to stand transfixed with wonder at the sight of flames breaking forth from the dishes and the food and every object on the board. The table was insulated on pitch cakes, and received the discharge from the huge glass retort which was revolved in another room.

"He introduced his ardent pupils to a young woman of transcendent attractions and as they advanced to press her fair hand, a spark shot from it accompanied by a shock which made them reel. Others, who had the boldness to accept his challenge to imprint a chaste salute upon the damsel's lips, received therefrom a discharge which Bose says 'broke their teeth,' but Bose here either exaggerates more than usual, or else neglects to explain how the young lady bore her share of the injury."

By 1746 showmen were traveling even to America with their electrical machines, giving people shocks for a small fee. It was one of these itinerant electricians who aroused Benjamin Franklin's interest in the subject.

One of a series of articles devoted to reproductions of prints, drawings and paintings of interest in the history of science—drawn from the famous collection of E. C. Watson, Professor of Physics and Dean of the Faculty of the California Institute.