The extension and confirmation which the Newtonian attraction formula had thus gained in the minds of many seemed to be entirely upset by a series of discoveries in which electrical, and subsequently magnetic, phenomena played an important part. These were, the discovery of galvanic electricity by Galvani in 1791 and by Volta in 1800; of the physiological and chemical effects of this form of electricity, especially by Davy (1806); of the magnetic effect of moving electricity by Oersted in 1820; of the connection of heat and electricity by Seebeck in 1822; of induction by Faraday in 1831—*i.e.*, of the action of electric currents and magnets in generating other electric currents or magnetic effects in bodies which are moving in their neighbourhood; and, finally, of diamagnetism by Faraday in 1845.

86. Davy and Faraday.

Many of the celebrated men with whose names the modern discoveries in electricity are identified, and amongst them notably Davy and Faraday, were not brought up in the mathematical school of the Continent,[1] in which

sion suivant une loi quelconque ne doit être regardée que comme une formule qui exprime un résultat d'expérience" (vol. i. p. 297).

[1] To these must be added the name of Cavendish (1731-1810), whose electrical researches, in which he anticipated many of Coulomb's results, proceeded on entirely different lines from those of the Continental school. He proved —in or before 1773—from the fact that a small globe situated in the hollow of a large electrified globe and communicating with it showed no signs of electricity, that electric attraction and repulsion must be inversely as the square of the distance. In his published and posthumous papers (edited by Maxwell in 1879 under the title of 'The Electrical Researches of the Hon. Henry Cavendish') he anticipated, as Maxwell has shown, many later investigations of British and Continental writers. He had a clear notion of electrical capacity, of potential and of electrical resistance, he anticipated Ohm's law—*i.e.*, the proportionality between the electro-motive force and the current in the same conductor. He studied the properties of dielectrics, and "not only anticipated Faraday's discovery of the specific inductive capacity of different substances, but measured its numerical value in several substances"