native of this supposition, or that of two fluids, to choose between, for the mathematical results of both hypotheses are the same. Wilcke, a Swede, who had at first asserted and worked out the Æpinian theory in its original form, afterwards inclined to the opinion of Symmer; and Coulomb, when, at a later period, he confirmed the theory by his experiments and determined the law of force, did not hesitate to prefer[6] the theory of two fluids, "because," he says, "it appears to me contradictory to admit at the same time, in the particles of bodies, an attractive force in the inverse ratio of the squares of the distances, which is demonstrated by universal gravitation, and a repulsive force in the same inverse ratio of the squares of the distances; a force which would necessarily be infinitely great relatively to the action of gravitation." We may add, that by forcing us upon this doctrine of the universal repulsion of matter, the theory of a single fluid seems quite to lose that superiority in the way of simplicity which had originally been its principal recommendation.

The mathematical results of the supposition of Æpinus, which are, as Coulomb observes,[7] the same as of that of the two fluids, were traced by the author himself, in the work referred to, and shown to agree, in a great number of cases, with the observed facts of electrical induction, attraction, and repulsion. Apparently this work did not make its way very rapidly through Europe; for in 1771, Henry Cavendish stated[8] the same hypothesis in a paper read before the Royal Society; which he prefaces by saying, "Since I first wrote the following paper, I find that this way of accounting for the phenomena of electricity is not new. Æpinus, in his *Tentamen Theoriæ Electricitatis et Magnetismi*, has made use of the same, or nearly the same hypothesis that I have; and the conclusions he draws from it agree nearly with mine as far as he goes."

The confirmation of the theory was, of course, to be found in the agreement of its results with experiment; and in particular, in the facts of electrical induction, attraction, and repulsion, which suggested the theory. Æpinus showed that such a confirmation appeared in a number of the most obvious cases; and to these, Cavendish added others, which, though not obvious, were of such a nature that the calculations, in general difficult or impossible, could in these instances be easily performed; as, for example, cases in which there are plates or globes at the two extremities of a long wire. In all these cases of

[6] *Mém. Ac. P.* 1788, p. 671.

[7] *Ac. P.* 1788, p. 672.

[8] *Phil. Trans.* 1771, vol. lxi.