thus made electric by the electric attraction and repulsion of other bodies. Canton's experiments were communicated to the Royal Society in 1753, and show that the electricity on each body acts upon the electricity of another body, at a distance, with a repulsive energy. Wilcke, in like manner, showed that parts of non-electrics, plunged in electric atmospheres, acquire an electricity opposite to that of such atmospheres. And Æpinus devised a method of examining the nature of the electricity at any part of the surface of a body, by means of which he ascertained its distribution, and found that it agreed with such a law of self-repulsion. His attempt to give mathematical precision to this induction was one of the most important steps towards electrical theory, and must be spoken of shortly, in that point of view. But in the mean time we may observe, that this doctrine was applied to the explanation of the Leyden jar; and the explanation was confirmed by charging a plate of air, and obtaining a shock from it, in a manner which the theory pointed out.

Before we proceed to the history of the theory, we must mention some other of the laws of phenomena which were noticed, and which theory was expected to explain. Among the most celebrated of these, were the effect of sharp points in conductors, and the phenomena of electricity in the atmosphere. The former of these circumstances was one of the first which Franklin observed as remarkable. It was found that the points of needles and the like throw off and draw off the electric virtue; thus a bodkin, directed towards an electrized ball, at six or eight inches' distance, destroyed its electric action. The latter subject, involving the consideration of thunder and lightning, and of many other meteorological phenomena, excited great interest. The comparison of the electric spark to lightning had very early been made; but it was only when the discharge had been rendered more powerful in the Leyden jar, that the comparison of the effects became very plausible. Franklin, about 1750, had offered a few somewhat vague conjectures[13] respecting the existence of electricity in the clouds; but it was not till Wilcke and Æpinus had obtained clear notions of the effect of electric matter at a distance, that the real condition of the clouds could be well understood. In 1752, however,[14] D'Alibard, and other French philosophers, were desirous of verifying Franklin's conjecture of the analogy of thunder and electricity. This they did by erecting a pointed iron rod, forty feet high,

[13] Letter v.

[14] Franklin, p. 107.