to Cavendish, that in the case of electric attraction and repulsion, the nature of the intervening medium was of importance: it played a part in the electric phenomena in the same way as in the propagation of light and heat the intervening medium played a definite part. This part had been entirely overlooked by Continental philosophers, who worked on the hypothesis of an immediate action at a distance, based upon the analogy of gravitation. Their researches, carried on by methods similar to those invented by Laplace and his school for the calculation of the combined effect of gravitational forces at various points in space, entirely ignored the question how such effects were brought about. As time did not seem to enter as an appreciable factor, the investigation of the mechanism by which action at a distance was communicated was set aside as unnecessary or impossible: the astronomical view of the phenomena sufficed. For Faraday, the intervening medium, which—as in the communication of light and heat—took an active part, the question of its nature and mode of action was very important; he accordingly first of all gave it a name. As in optics the term luminiferous ether had been recently revived, and had become familiar through Young and Fresnel, so through Faraday were introduced the terms "dielectric" and "magnetic field," as the carriers of electric and magnetic action; and though for a long time used only by himself, they

tween gravity and electricity." On the failure of this attempt he fully reported in his Bakerian Lecture, November 1850 ('Exp. Res.,' vol. iii. p. 161). But the former results were sufficient to ripen gradually in his mind the idea of the physical nature of the lines of force, which he expounded with increasing precision from 1851 onward. (See 'Exp. Res.,' 28th series, vol. iii. p. 328; also pp. 402, 438).