

speedy disclosure of relations and laws of which, at present, we can form but a very imperfect notion.

(367.) The communication of magnetism from the earth to a magnetic body, or from one magnetic body to another, is performed by a process to which the name of induction has been given, and the laws and properties of such induced magnetism have been studied with much perseverance and success,—practically, by Gilbert, Boyle, Knight, Whiston, Cavallo, Canton, Duhamel, Rittenhouse, Scoresby, and others; and theoretically, by *Æpinus*, Coulomb, and Poisson, and in our own country, by Messrs. Barlow and Christie, who have investigated, with great care, the curious phenomena which take place when masses of iron are presented successively, in different positions, by rotation on an axis, to the influence of the earth's magnetism. The magnetism of crystallized bodies (partly from the extreme rarity of such as are susceptible of any considerable magnetic virtue) has not hitherto been at all examined, but would probably afford very curious results.

(368.) To electricity the views of the physical inquirer now turn from almost every quarter, as to one of those universal powers which Nature seems to employ in her most important and secret operations. This wonderful agent, which we see in intense activity in lightning, and in a feebler and more diffused form traversing the upper regions of the atmosphere in the northern lights, is present, probably in immense abundance, in every form of matter which surrounds us, but becomes sensible only when disturbed by excitements of peculiar kinds. The most effectual of these is friction, which we have already observed to be a powerful source of heat. Everybody is familiar with the crackling sparks which fly from a cat's back when stroked. These, by proper management, may be accumulated in bodies suitably disposed to receive them, and, although then no longer visible, give evidence of their existence by the exhibition of a vast variety of extraordinary phenomena,—producing attractions and repulsions in bodies at a distance,—admitting of being transferred by contact, or