BOOK XI.

ELECTRICITY.

GENERAL REMARKS.

ELECTRICITY in the form in which it was originally studied—Franklinic, frictional, or statical electricity—has been so completely identified with electricity in its more comprehensive form—Voltaic, chemical, or dynamical electricity—that any additions we might have to make to the history of the earlier form of the subject are included in the later science.

There are, however, several subjects which may still be regarded rather as branches of Electricity than of the Cognate Sciences. Such are, for instance, Atmospheric Electricity, with all that belongs to Thunderstorms and Lightning Conductors. The observation of Atmospheric Electricity has been prosecuted with great zeal at various meteorological observatories; and especially at the Observatory established by the British Association at Kew. The Aurora Borealis, again, is plainly an electrical phenomenon; but probably belonging rather to dynamical than to statical electricity. For it strongly affects the magnetic needle, and its position has reference to the direction of magnetism; but it has not been observed to affect the electroscope. The general features of this phenomenon have been described by M. de Humboldt, and more recently by M. de Bravais; and theories of the mode of its production have been propounded by MM. Biot, De la Rive, Kaemtz, and others.

Again, there are several fishes which have the power of giving an electrical shock:—the torpedo, the gymnotus, and the silurus. The agency of these creatures has been identified with electricity in the most general sense. The peculiar energy of the animal has been made to produce the effects which are produced by an electrical discharge or a voltaic current:—not only to destroy life in small animals, but to