

## CHAPTER I.

### DISCOVERY OF LAWS OF MAGNETIC PHENOMENA.

THE history of Magnetism is in a great degree similar to that of Electricity, and many of the same persons were employed in the two trains of research. The general fact, that the magnet attracts iron, was nearly all that was known to the ancients, and is frequently mentioned and referred to; for instance, by Pliny, who wonders and declaims concerning it, in his usual exaggerated style.<sup>1</sup> The writers of the Stationary Period, in this subject as in others, employed themselves in collecting and adorning a number of extravagant tales, which the slightest reference to experiment would have disproved; as, for example, that a magnet, when it has lost its virtue, has it restored by goat's blood. Gilbert, whose work *De Magnete* we have already mentioned, speaks with becoming indignation and pity of this bookish folly, and repeatedly asserts the paramount value of experiments. He himself, no doubt, acted up to his own precepts; for his work contains all the fundamental facts of the science, so fully examined indeed, that even at this day we have little to add to them. Thus, in his first Book, the subjects of the third, fourth, and fifth Chapters are,—that the magnet has poles,—that we may call these poles the north and the south pole,—that in two magnets the north pole of each attracts the south pole and repels the north pole of the other. This is, indeed, the cardinal fact on which our generalizations rest; and the reader will perceive at once its resemblance to the leading phenomena of statical electricity.

But the doctrines of magnetism, like those of heat, have an additional claim on our notice from the manner in which they are exemplified in the globe of the earth. The subject of *terrestrial magnetism* forms a very important addition to the general facts of magnetic attraction and repulsion. The property of the magnet by which it directs its poles exactly or nearly north and south, when once discovered, was of immense importance to the mariner. It does not

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<sup>1</sup> *Hist. Nat.* lib. xxxvi. c. 25.