

shall not be divided by other pursuits or other avocations. The absolute values of the magnetic elements,—*viz.*, of the Declination, the Inclination, and the Intensity of the Force,—and their periodical and secular variations, together with their mutual relations and dependencies, constitute the proper objects of research in a FIXED MAGNETIC OBSERVATORY. To these must also be added, as a distinct but connected branch, an investigation into the nature and laws of magnetic disturbances,—of those occasional and apparently irregular perturbations by which the magnetic elements have been found to be affected. These phenomena have attracted an extraordinary degree of interest since the rediscovery, in the present century, of their contemporaneous occurrence over large portions of the earth's surface;\* and sanguine expectations have been entertained, that co-operative and simultaneous observation in different parts of the globe would lead to a knowledge of their cause, and that by their means we might possibly be conducted to a knowledge of the physical nature of the more stable forces engaged in the phenomena of terrestrial magnetism. For this branch of the inquiry, also, systematic observation is manifestly required, conducted on principles of uniformity in respect to times of observation and to instrumental means, and extended particularly to those localities where the agency of the disturbing causes is most largely developed. In France and Russia, Germany and Italy, public establishments were formed for the purpose of aiding in the accomplishment of these objects; but, as yet, the part which Britain had taken was limited to the partial and desultory exertions of individual zeal, when, in 1836, the attention of British philosophers was specifically drawn,—by a letter from the Baron Alexander von Humboldt to His Royal Highness the Duke of Sussex, President of the Royal Society,—to the claims which magnetic science must be considered to have on a nation possessing such extensive dominions in all parts of the globe, and such unrivalled means of contributing to the advancement of the physical sciences, by the formation of suitable establishments in the localities in which researches might best be carried on.

The respect and consideration with which the Baron von Humboldt's letter was received in all parts of the United Kingdom, bear unquestionable testimony to the judgment of the illustrious individual by whom this appeal was adventured.

In the spring of 1837, the University of Dublin, at the instance of Dr. Lloyd, at that period Professor of Natural Philosophy in the University, voted the necessary funds for the establishment of an Observatory, in which all the researches connected with the sciences of terrestrial magnetism and meteorology might be systematically conducted; and, in the summer of the same year, on a representation to Government

\* The first discovery of this remarkable fact appears to have been made on the 5th of April 1741, by the contemporaneous and preconcerted observations of Celsius at Upsala, and Graham in London. (*Hauteen Magnetismus der Erde*, page 412, *et seq.*) Its rediscovery in the present century is due to a series of corresponding observations undertaken by Arago in Paris, and Kupffer in Kasaan, in the years 1825 and 1826.