

Important steps in the prosecution of this subject were soon after made by M. Gauss, the great mathematician of Göttingen. He contrived instruments and modes of observation far more perfect than any before employed, and organized a system of comparative observations throughout Europe. In 1835, stations for this purpose were established at Altona, Augsburg, Berlin, Breda, Breslau, Copenhagen, Dublin, Freiberg, Göttingen, Greenwich, Hanover, Leipsic, Marburg, Milan, Munich, Petersburg, Stockholm, and Upsala. At these places, six times in the year, observations were taken simultaneously, at intervals of five minutes for 24 hours. The *Results of the Magnetic Association* (Resultaten des Magnetischen Vereins) were published by MM. Gauss and Weber, beginning in 1836.

British physicists did not at first take any leading part in these plans. But in 1836, Baron Humboldt, who by his long labors and important discoveries in this subject might be considered as peculiarly entitled to urge its claims, addressed a letter to the Duke of Sussex, then President of the Royal Society, asking for the co-operation of this country in so large and hopeful a scheme for the promotion of science. The Royal Society willingly entertained this appeal; and the progress of the cause was still further promoted when it was zealously taken up by the British Association for the Advancement of Science, assembled at Newcastle in 1838. The Association there expressed its strong interest in the German system of magnetic observations; and at the instigation of this body, and of the Royal Society, four complete magnetical observatories were established by the British government, at Toronto, St. Helena, the Cape of Good Hope, and Van Diemen's Land. The munificence of the Directors of the East India Company founded and furnished an equal number at Simla (in the Himalayah), Madras, Bombay, and Sincapore. Sir Thomas Brisbane added another at his own expense at Kelso, in Scotland. Besides this, the government sent out a naval expedition to make discoveries (magnetic among others), in the Antarctic regions, under the command of Sir James Ross. Other states lent their assistance also, and founded or reorganized their magnetic observatories. Besides those already mentioned, one was established by the French government at Algiers; one by the Belgian, at Brussels; two by Austria, at Prague and Milan; one by Prussia, at Breslau; one by Bavaria, at Munich; one by Spain, at Cadiz; there are two in the United States, at Philadelphia and Cambridge; one at Cairo, founded by the Pasha of Egypt; and in India, one at Trevandrum, established by the Rajah of Travancore; and one by