

1857-62. In the *Philosophical Transactions of the Royal Society* for 1870 will be found a full account of this survey and likewise of the earlier one. In this paper Sir Edward Sabine combined the observations of the two surveys and drew the isomagnetic lines for the mean epoch of 1842-5. And now again Great Britain has just completed a *third* magnetic survey, far more elaborate than any of the preceding ones. This survey, one of the most carefully executed up to date, was conducted by two most eminent physicists, Professors Rücker and Thorpe.<sup>1</sup> It was a most fruitful piece of work. Observations of the three elements were made at first by the two distinguished professors themselves between the years 1884-88 at 205 places.<sup>2</sup> The Government Grant Committee of the Royal Society then made a liberal grant so that the survey might be carried out on a larger scale than hitherto attempted. Two assistant observers were then employed, and with their aid, in the four years 1889-92, the grand total of the number of stations was brought up to 882, making, on the average, one station to every 139 square miles of land area.<sup>3</sup> The isomagnetic lines corresponding to the epoch 1886-90, and based on the 205 observations made between the years 1884-88, were drawn, and likewise those as based on the 677 stations observed in 1889-92, were constructed for the epoch 1891, and finally the lines as resulting from *all* the stations were obtained. A splendid opportunity was thus afforded for testing the accuracy with which the positions of the isomagnetic lines, *e. g.*, the lines of equal magnetic declination or variation, can be inferred from observations in greater or less number. We shall have occasion to revert to this particular matter in a future report. In the meanwhile we refer the reader to Professor Rücker's interesting account<sup>4</sup> published in *Terrestrial Magnetism* for July, 1896.

<sup>1</sup>To Dr. Thorpe we owe a number of determinations of the magnetic elements in our own country.

<sup>2</sup>The results were published in the *Phil. Trans. of the R. S.*, 1890, A, p. 53, the memoir constituting the Bakerian Lecture of that year.

<sup>3</sup>The results of this last work have just been published, *Phil. Trans. R. S.*, vol. 188, A, 1896.

<sup>4</sup>A. W. RÜCKER: A Summary of the Results of the Recent Magnetic Survey of Great Britain and Ireland conducted by Professors Rücker and Thorpe:—I. On the Accuracy of the Delineation of the Terrestrial Isomag-