

a short note to the *Monthly Notices* in 1889 (vol. l. p. 34) on "Observations of the Conjunction of *Mars* and *Saturn*."

JAMES GILL was born on the 14th of May 1840, near Port St. Mary, Isle of Man, and though early attracted to the sea and bearing for many years the courtesy title of 'Captain,' he chose rather to train others in navigation and seamanship than to seek a command for himself. To the Mercantile Marine in Liverpool he rendered a very important service by the careful training and instruction he gave to many officers. For many years he was the Principal of the Navigation School at the Sailors' Home, and occupied such a commanding position as a teacher that when the Liverpool Corporation decided to found a school of Nautical Astronomy under their own supervision Mr. Gill was elected to the Head Mastership. In September 1892 the Nautical College was opened with the intention of providing a more thorough and efficient course of instruction than was demanded by the Board of Trade certificates. Mr. Gill loyally recognised the views and intentions of the Corporation, and for eight years he struggled not unsuccessfully against the superficial methods of tuition which had too long obtained in nautical circles. With the view of promoting a sounder study of navigation he published *A Text-Book of Navigation and Nautical Astronomy* (Longmans, 1898), which has attained considerable success.

Mr. Gill was elected a Fellow of this Society in January, 1888, but from a much earlier date he had given assistance to the Liverpool Astronomical Society, and in later times the meetings of this Society were held in apartments in the Nautical College. For some time he was President, and by his influence contributed not a little in keeping this Society together. He died on the 9th of January 1900, leaving a widow and three children.

EDWARD JOSEPH LOWE was the only surviving son of the late Mr. Alfred Lowe, of Highfield House, Nottingham, where he was born on the 11th of November 1825. At the age of fifteen he began an important series of meteorological observations, which were continued down to the time of his removal (in 1882) to Chepstow, Monmouthshire. He published in 1846 "A Treatise on Atmospheric Phenomena," and two years later began to assist the late Professor Baden-Powell, of Oxford, in his work on luminous meteors, and the results of their observations, which extended over a number of years, were communicated to the British Association. Mr. Lowe was elected a Fellow of this Society on the 14th of January 1848, and read his first paper in April 1849, on "Observations of Solar Spots at Mr. Lawson's Observatory, Bath," in which some curious phenomena are described. "The *umbra*, which was of an elongated form, opened in the centre, and so divided it into two parts; it always opened from the lower edge, and was alternately open and closed at intervals of 15^s; this was very sensible, and the experiment

of marking the time which elapsed between the openings was repeated many times." In a footnote is described the "simple and neat" contrivance for registering the positions of spots which was simply a reticule of small squares now known as the *réseau*. Papers which followed were on Meteors and on the Zodiacal Light, which Mr. Lowe observed assiduously. He wrote several very interesting papers on meteors and fireballs in *Recreative Science* and other publications. He observed the eclipse of 1860 at Fuente del Mar, near Santander, making a very complete series of meteorological observations which showed the temperatures at various heights above the ground, amount of cloud, amount of light, &c., during the eclipse (*R.A.S. Memoirs*, vol. xli.). And his activities extended to other branches of science. In the R.S. Catalogue of scientific papers is a list of 46 papers by him (up to 1883) on a great variety of subjects. He invented the dry powder tests for ozone in the atmosphere; he was an ardent naturalist, publishing works on conchology, on British ferns, grasses, and plants. His experiments on the hybridisation of ferns produced some remarkable results, which, however, were not generally accepted as genuine.

He was one of the founders and original Fellows of the Meteorological Society, a Fellow of the Royal, the Geological, the Linnæan, and other learned Societies. He married in 1849 Miss Annie Allcock. His death occurred on the 10th of March 1900, at his residence, Shirenewton Hall, Monmouthshire.

JOHN McLANDSBOROUGH was the eldest son of Andrew McLandsborough, of Kells, in Scotland, who had settled at Otley, in Yorkshire, where his son was born on the 3rd of May 1820. Young McLandsborough was educated in Otley, principally in the grammar school of that town. He was apprenticed to a currier and leather merchant, but after completing his indentures, finding the occupation uncongenial, he obtained employment on the Ordnance Survey, and soon became an expert surveyor. Desiring to be a civil engineer, he spent several years with the late Mr. John Miller, a civil engineer, in Edinburgh, and returning to Yorkshire he commenced practice in Bradford in 1850. His experience in Scotland had been chiefly in connection with the laying out and construction of railways, and he did similar work in his general practice at Bradford. Besides work for other companies, he was instrumental in inducing the Midland Railway to extend their line to Otley and Ilkley, and he was engineer for the line between Keighley and Oxenhope. He was also greatly interested in sanitary engineering, and carried out various waterworks undertakings at Shipley, Horsforth, and Clitheroe, besides drainage works at Burley, Yeadon, and many other places.

When quite a young man Mr. McLandsborough started a Mutual Improvement Society, afterwards merged in a Mechanics' Institute, of which he became a member of the committee of