

In the course of a few years he became Medical Officer of Health for the district, and he held this position for nearly thirty-three years. His professional duties prevented him from devoting much time to astronomical work, but he was an ardent student of many branches of science, particularly geology, on which subject he was a local authority, and as a writer and lecturer he was in great demand and was deservedly popular. Soon after resigning his public work at Heath Town he removed to Tettenhall, a district on the other side of the town, where he hoped to have more time for the study of science. Early in 1924 he began to exhibit symptoms of failing health, and after a painful illness he died on 1924 September 18.

He married in 1901, and he leaves a widow and a son.

He was elected a Fellow of the Society 1899 January 13.

JOSEPH HOUGH, who died at Codsall Wood, Staffordshire, on 1924 November 14, was born at Leeds in 1837. He left school at an early age and became an apprentice in Fairbairn's Engineering Works. While there he used every opportunity for study and he attended evening classes at the Leeds Mechanics' Institute. After a fellow apprentice had once pointed out the Plough, the love of astronomy developed it and lasted to the end of his life. In 1859 he was appointed astronomer to the second Lord Wrottesley, a Past President of the Royal Society and also of the Royal Astronomical Society, and at that time President of the British Association, and he had charge of the Wrottesley Observatory and Library until after the death of Lord Wrottesley in 1867.

In 1869 he went to Sidney Sussex College, Cambridge, where he was soon elected a scholar. In 1872 he went as Science Master to Rossall School, and in 1874 he was elected Headmaster of Burnley Grammar School.

After his retirement, Hough lived in his country home near to the Wrottesley Observatory and devoted himself to study and coaching, being especially interested in helping those who were born in humble circumstances. He was a staunch churchman, and for many years he was a member of the Lichfield Diocesan Council. A man of much learning and of great humility, he was blessed with an unusually happy temperament, and to the end of his long life he retained the joyous spirit of youth, and his keen interest in scientific studies and in all branches of sport.

He married in 1875 Harriet, second daughter of the late S. Hickman, Esq., of Oaken, and he is survived by his wife and his three sons and three daughters.

He was elected a Fellow of the Society on 1873 December 12.

WILLIAM HENRY MAW was born at Scarborough on 1838 December 6, and was the only child of his parents. His father, William Mintoft Maw, was a captain in the Merchant Service, and both his grandfathers were captains in the Royal Navy.

Mr. Maw received his early education at Sykes' School, a private school at Scarborough. Here he formed a great friendship with the

sons of Dr. Harland, two of whom in later life were the founders of the well-known shipbuilding firm of Harland & Wolff at Belfast. In 1853 his father died at sea, and he and his mother were left very badly off. His mother died shortly after.

The boy's mind was early turned to mechanics and engineering, and in 1855 March he was taken on at the Stratford works of the Eastern Counties' Railway. At first he was in the smith's shop in the carriage and wagon department and soon after in the locomotive department. He appears to have been studious, for at this period he devoted his spare time to drawing at the Mechanics Institute, and thus qualified himself to give occasional assistance in the drawing-office of the Railway Company. He thus became an excellent draughtsman, and was thought so highly of by the Company that in 1859, at the age of 21, he was appointed head of the drawing-office of the locomotive and engineering department. In this position he remained till 1865, when he left the then Great Eastern Railway to join Mr. Zerah Colburn on the formation of the new journal *Engineering*. His long connection with this paper as one of the editors, from this time until the day of his death, is probably unique in the history of journalism.

Mr. Maw's activities in mechanical engineering began when he was quite a young man. While at Stratford he designed the locomotives for the East Indian Railway, and it is noteworthy that these were the first outside cylinder engines placed on an Indian railway. In a report on the locomotives exhibited at the 1862 exhibition Mr. Maw wrote the section on Valve Gears, which is recognised to-day as a classic on the subject. Beside the enormous labour entailed by editing a journal like *Engineering*, Mr. Maw had an extensive practice as consulting engineer in connection with engine and boiler construction and the design of workshops, particularly in designing and laying out the printing works of newspapers, such as *The Daily Telegraph*, *The Field*, *The Queen*, and others.

Constantly active in his profession, and endued not only with extensive mechanical and engineering knowledge, but with very sound common sense, Mr. Maw's services to the advancement of those sciences were fully recognised throughout the country. In 1863 he was elected President of the Civil and Mechanical Engineers' Society. In 1901 he was President of the Institution of Mechanical Engineers, and in 1922 he was chosen President of the Institution of Civil Engineers. At this Institution he delivered the "James Forrest" lecture on many engineering problems. This subject was followed up in his Presidential Address in 1922, when he treated again of the unsolved problems of engineering. "The remarkable thing about this presidential address was the detailed knowledge it showed of recent engineering developments, whether in connection with special alloys, X-ray investigations, steam-turbine practice, or reduction gearing. For such an address to have been prepared, unaided as it was, by a busy man in his eighty-fourth year, was evidence of an energy and a living interest in a wide variety of subjects which might well be envied by most younger men."\*

Notwithstanding these many claims on his thought and energies,

\* *Engineering*, 1924.

Mr. Maw devoted his leisure to astronomy. In 1887 he built an observatory at his house in Addison Road, in which he established a 6-inch equatorial refractor by Cooke. In this year he began the series of micrometric measurements of double stars, which he continued for over twenty years, and these were published in five memoirs of the *R.A.S.* Later on, in 1896, he erected at his house at Outwood, Surrey, the fine 8-inch equatorial refractor by Cooke, which had formerly belonged to the Rev. W. R. Dawes. His observations with both telescopes were mainly on the Struve double stars, and the comparison with other observers, as shown in Mr. Lewis's memoir on these stars, shows that the observations were made with refined accuracy.

In 1892 Mr. Maw was elected on the Council of this Society, and remained a constant attendant at its meetings till 1919, when he retired. During this period he was Treasurer from 1900 to 1905, when he was elected to the chair of the President, which he occupied for two years. His treasurership was marked by the introduction of a system for the reduction of composition fees according to years of Fellowship. As President he delivered two addresses, on presenting the Gold Medal to Professor Campbell in 1906, and a similar presentation to Professor Ernest Brown in 1907.

Mr. Maw was one of the founders of the British Astronomical Association in 1890, of which there was no more devoted member. For many years he was Treasurer, and for two years President. The great success that has attended that association is very largely due to his unvarying help and his wise counsels.

In 1909 Mr. Maw was honoured by the University of Glasgow by receiving the degree of LL.D., *honoris causa*. On that occasion it was stated on his presentation to the Vice-Chancellor: "It is fitting that the University, situated in what has not inaptly been termed 'the Metropolis of Mechanical Engineering,' should recognise the great services which Mr. Maw has rendered to the advancement both of pure and applied science by admitting him to its roll of honour." In 1923 his portrait, painted by Mr. Hall Neale, was presented to him by the Institution of Civil Engineers.

He was a member of the Board of the National Physical Laboratory and of many scientific societies; and his services were constantly sought on numerous committees connected with engineering, and he took an active part during the War on committees in connection with the ministry of munitions.

Dr. Maw was of a most gentle, amiable nature, of unbounded good humour, and always helpful in giving wise and sensible advice. He rarely missed attendance on the many committees of which he was a member, and he had a deep sense of duty and its responsibilities.

In many respects the life of Dr. Maw is noteworthy. Left an orphan at the age of 16, with scanty means, without influence, and without the advantages of higher education, he nevertheless raised himself by his own efforts and industry to an honourable position which made him a leading authority on mechanical engineering and brought him eventually the high distinction of presiding over the two great engineering institutions of this country.

In the last year or two of his life his health caused anxiety which put some restraint upon his energies, but he continued in active harness until his last illness, when he passed away at his house in Addison Road on 1924 March 19, at the age of 85 years, thus terminating a long life of great and abiding usefulness.

He left a widow and a family of three sons and five daughters; his widow, however, survived him only six months, as she died on September 11.

He was elected a Fellow of the Society on 1888 December 14.

E. B. K.

MARGARET THEODORA MEYER was the elder daughter of the Rev. Theodore Meyer, and was born in Ulster. She was educated at the North London Collegiate School for girls, and entered Girton College, Cambridge, as a scholar in 1879, taking honours in the Mathematical Tripos in 1882. She was Mathematical Mistress at Notting Hill High School until 1888, when she returned to Girton as Resident Lecturer in Mathematics. In 1901 she became Director of Studies, and she remained at Girton until the last year of the War, when she assisted in the calculating section of the Air Department. From 1919 on she coached pupils at University College, London, but was gradually giving up this work, and she was looking forward to building a cottage in Cambridge when she met her death suddenly on the evening of Sunday, 1924 January 27. She was cycling and collided with a motor bus, her death being instantaneous. She was present on January 11 at the meeting of the Royal Astronomical Society previous to her death. She was interested in astronomy, mountain climbing, and cycling, but her chief interests were connected with the College which she served for thirty years with zeal and devotion. For the College Chapel she herself carved the panels, or directed students in the carving. She has bequeathed to the College a collection of mathematical books and £2000, "the interest to be used for the encouragement of the study of mathematics, and to be given, at the discretion of the governing body, either to a student in her second or third year, or to one who has taken mathematics and intends to do mathematical research"; also £1000 to the College for general purposes.

She was elected a Fellow of the Society on 1916 February 11.

A. S. D. M.

EDWARD PRENTICE was born on 1864 June 20. He was educated at Wickham's Preparatory School, Worthing, and at Winchester College, where he became Captain of Sixes and Prefect.

On leaving Winchester he took up the business of paper-making, first at Whatman's Paper Mills at Maidstone, and subsequently at Carshalton and London. He was also connected with the electrical business, and joined the firm of Pyke, Harris & Co. at Westminster. About 1910 he visited Ceylon and the Malay Straits to investigate the possibilities of rubber plantations. On the outbreak of the War he undertook various duties connected with war service, and was engaged in munition and recruiting work at Wimbledon, Norwich, and Winchester.