

engaged during that period were the main sewage and sewage-disposal works, waterworks extension, tramways and street improvements.

Mr. Reah was elected an Associate Member on the 12th January, 1886.

FRANCIS SAMUEL WILDE, eldest son of Mr. Samuel John Wilde, barrister-at-law, was born in London on the 30th August, 1857, and was educated at Haileybury College, where he obtained a mathematical scholarship. He was apprenticed to Mr. William Adams, then Locomotive Superintendent of the Great Eastern Railway Works at Stratford. He worked for a short time under a contractor on the Halesowen Railway in 1878, and in the following year he went to Brazil as an Assistant Engineer on the construction of the Natal and Nova Cruz Railway. On the completion of that line he was engaged on the Alagoas Railway under the same contractors. In 1887 Mr. Wilde proceeded to India, where he was occupied on the construction of the Bengal-Nagpur Railway. On the reduction of the staff on the near completion of that line, he was engaged on the Simla Railway survey. He then returned to England and acted for Sir Alexander Rendel as an inspector of bridge and other works.

In 1891 Mr. Wilde again went to India and was employed at Gulestan on the Quetta Railway for the Government. In November, 1892, he was appointed an Executive Engineer on the Assam-Bengal Railway, on the hill section in the middle of the Cachar Hills in a dense jungle. There he was engaged until the 12th July, 1898, when he was murdered by some Pathans who were working on the line. Mr. Wilde was elected an Associate Member on the 4th December, 1883.

ARTHUR EDWARD GUEST, born at Dowlais on the 7th November, 1841, was the fifth and youngest son of the late Sir Josiah John Guest, Bart., by Lady Charlotte Elizabeth, only daughter of the ninth Earl of Lindsey. The Guest family first made its appearance in Wales in 1760. In the early part of the eighteenth century there lived at the White Horse, in Broseley, Staffordshire, a small freeholder named John Guest, who carried on the combined business of a brewer, farmer and coal dealer. Over the porch of

his dwelling was a large "G," for there was the old homestead of the Guests, a family located in Broseley for upwards of two hundred years, and noticeable as well-conducted energetic people. John Guest lived at the time when dabbling in iron-making became common in iron districts. There are remains to this day at Broseley of an old furnace known as Guest's, where he attempted, with what success is not known, to make iron. John Guest came to Merthyr in 1760, and there took charge of the furnace of a man named Lewis, who had leased the Dowlais property for the sum of £28 per annum. He built himself a house by the side of Morlais, and there he lived and worked, quietly moulding his fortunes. He has been described as a plain, homely man, tall, finely built, with eccentric habits, but much loved by his workmen. He had but few men, and as he applied himself with characteristic energy to the study of the Welsh language he was soon able to converse with them in their own tongue. After a lapse of three years, John Guest was steadily gaining ground, and rows of cottages were beginning to appear at Dowlais. The coal measures in the district were first developed by Mr. Guest in a very small way, and more for the use of the farmers and the villagers than for his furnace; but in the course of years his yield of iron increased from 500 tons annually to 1,500 tons. In 1785 Thomas Guest, the son, assumed the direction of affairs and became a member of the firm, which from that time was known as the Dowlais Iron Company. During his management the works increased remarkably. At the beginning of this century three furnaces were at work, and the annual product was about 3,000 tons. Josiah J. Guest—subsequently created a baronet—was born in 1785, and on the death of his father in 1807 he was appointed sole manager of the works. In 1815 the number of furnaces at Dowlais had increased to five, with an output of 15,000 tons per annum, and seven years later the number had been doubled.

The subject of this notice, after being educated at Harrow and at Trinity College, Cambridge, became well known in the railway world, devoting many years of his life to the interests of two Companies, the London and South Western and the Taff Vale. He became a Director of the former Company in November, 1876, by election under the Company's Act of that year, which gave the remaining members of the Board the power of filling up vacancies occasioned by any cause other than the retirement of a Director in the ordinary course. The election of Mr. Guest was the first exercise of this power by the South Western Board, so that he may be said to have had the distinction of inaugurating

the new order of Directors under the Act above quoted. At the time of his death Mr. Guest had nearly completed twenty-two years as a South Western Director, and during the whole of that period he was noted for his great zeal and energy coupled with prudence and ability of the highest order. There was no department of the service in which he was not personally known, and there was no branch of the Company's business with which he was not acquainted. He was remarkable for his keen intelligence and breadth of views on all railway matters, and his advice and assistance were always at the disposal of his colleagues on the Board, as well as of the officers of the Company who had the advantage of consultations with him. He was more particularly interested in engineering and shipping business—traffic and finance being less to his taste than mechanics in all its branches. This preference brought him into prominence as a member of the Engineering Committee, of the Docks Committee, and of the Locomotive and Carriage Committee of Directors, of the last-mentioned of which he was Chairman for several years, during which he was instrumental in bringing about many improvements in the rolling stock of the Company.

The introduction of the American line of mail steamers into Southampton was largely due to Mr. Guest's initiation and efforts, and he took a prominent part in the negotiations and arrangements for securing this important and valuable addition to the Company's business. He was also a representative member of the South Western Board on some of the joint committees with other railway companies. He was most popular with the staff, and never lost an opportunity of evincing a warm interest in their social well-being, and his death is deeply felt and sincerely deplored throughout the entire service of the Company.

Mr. Guest was one of the promoters and original Directors of the Waterloo and City Electric Railway, and took much interest in the formation of the Company and the construction of the line.

Mr. Guest was appointed a Director of the Taff Vale Railway Company in 1886, and when, after an investigation held in 1890, a new Board was formed, he was elected Chairman, which post he held, with great advantage to the Company, until his death. It may be mentioned that his father was the promoter and first Chairman of the Company on its formation in 1836.

Mr. Guest died in London on the 7th July, 1898, at the residence of his sister, Lady Layard, after a long and painful illness from an internal complaint. He was a Justice of the Peace for Dorset and Deputy-Lieutenant for the counties of Hampshire and

Glamorganshire, and he sat as a Conservative for Poole from 1868 to 1874. In April, 1867, he married Adele Mary, daughter of Mr. David Barclay Chapman, of Downshire House, Roehampton.

Mr. Guest was elected an Associate on the 2nd December, 1879.

GEORGE FREDERICK WHITE, for many years a member of the firm of John Bazley White and Brothers, cement manufacturers, died at Wimborne on the 11th August, 1898. He was the second son of the late Mr. John Bazley White, and was born at Kennington on the 24th December, 1816. He had intended to become an architect, and served articles with the late Mr. Roberts, the architect of the Fishmongers' Hall. Circumstances, however, made an opening for him in the business which was carried on by his father and Mr. Francis, under the name of Francis and White, at Nine Elms. At that time, and until the year 1837, Roman cement formed the staple of their trade; and meanwhile the partnership between Mr. Francis and Mr. White, sen., having been dissolved, the works were transferred to Swanscombe in Kent, where Portland cement, from the time of its invention, was manufactured by Messrs. White.

It is unnecessary to dwell on the development and extension given to this trade as the hydraulic properties of that cement came to be recognised by the engineering and building world. Mr. G. F. White is believed to have originated, in conjunction with Messrs. Walker and Burges, the method, since universally adopted, of testing the strength of Portland cement by the rupture of briquettes. He prepared and presented to the Institution in 1852 a Paper entitled "Artificial hydraulic, or Portland cement, with an account of the testing of the brick beam erected at the Great Exhibition, Hyde Park,"¹ for which he was awarded a Telford medal. In 1865 he contributed in the course of the discussion upon Mr. John Grant's Paper on "The Strength of Cement," valuable information as to the specific weight and testing of that material.² Indeed, it may be said that no small amount of the improvement in the quality of Portland cement which has taken place in the sixty years since it was invented, is due to the stimulus given by these and similar discussions at the Institution.

¹ Minutes of Proceedings Inst. C.E., vol. xi p. 478.

² *Ibid.*, vol. xxv. p. 117.