

on his own account in Perth in the year 1855, and during the next forty years was connected with many important works. The first of these was the drainage of the city of Perth, which he carried out between 1862 and 1867. On account of the level of the town being in many places only a few feet above the normal level of the river, the works presented considerable difficulties, which Mr. Young overcame with great judgment and skill. He was also responsible for the drainage of Selkirk, Crieff, Blairgowrie, and Newport (Fife).

Between the years 1877 and 1880 Mr. Young carried out, in conjunction with the late Mr. J. F. La Trobe Bateman,¹ an extension of the Perth Waterworks. He was also engaged on works for the water-supply of Crieff and of Dunblane. In addition to drainage and water-supply, he had some experience of railway works, having prepared plans for a narrow-gauge line from Alyth to Braemar and acted as engineer on the construction of the Crieff and Comrie Railway, an extension of the Caledonian system. He was also the architect of several public buildings in Perth and engineer to the Perth and District Tramways, recently completed and opened.

Mr. Young died on the 2nd December, 1895, after a short illness, death being attributed to a chill. In social life he was very popular. He was the author of a little volume of songs and poems and had some skill as a musician. Mr. Young was a town councillor and magistrate of Perth, and an enthusiastic Freemason. He was elected a Member on the 1st December, 1891.

RICHARD FREDERIC FITZ-EDMUND HAYES, M.A., born at 25, Mountjoy Square, Dublin, on the 10th May, 1855, was the fourth son of the Hon. Mr. Justice Hayes, a Judge of the Queen's Bench Division, Ireland. He was educated at the Royal School of Dungannon and afterwards at Londonderry, but owing to ill-health was obliged to leave and for some considerable time was an invalid. On his restoration to health, he passed first in an examination of candidates for the Straits Settlements Civil Service. On presenting himself however for physical examination he was disqualified; this was a heavy blow, but he resolved to pursue the Dublin University course, which he had already commenced, and to become a civil engineer. His mathematical abilities were brilliant, and he carried off many prizes as well as a gold medal

¹ Minutes of Proceedings Inst. C.E., vol. xvii. p. 392.

and the Senior Moderatorship in experimental science and mathematics. From the engineering school of Trinity College, Dublin, he obtained not only the regular diploma granted by the University, but special certificates in mineralogy, chemistry, geology and mining. In May, 1881, he was articled to Mr. Shelford, who subsequently entrusted him with the superintendence, under the Resident Engineer, of the construction of part of the Hull and Barnsley Railway.

Mr. Hayes was then employed for two years by the Lancashire and Yorkshire Railway Company in preparing contract plans for the Hindley and Pendleton line, and in making drawings for iron and masonry bridges, roofs and station buildings. In 1886 and 1887 he was engaged in Co. Galway in charge of a number of small harbour and bridge works, all of which were executed to the satisfaction of the Board of Public Works. He then entered the office of Messrs. James Livesey and Son, whom he left, however, for the purpose of constructing a railway in Mexico, and afterwards undertook a contract for the erection of station buildings in the same country. For some time he had been busy in the introduction of a preparation of pine wood into London, which is expected to be useful for many purposes, but in the midst of health and activity he was struck down by diphtheria. Mr. Hayes died in London on the 18th of December, 1895. He was elected an Associate Member on the 27th May, 1884.

EDWARD WILTHEW JACKSON, born in London in September, 1838, was the eldest son of the late Mr. Thomas Jackson, who, in his day, was known as an enterprising contractor. Edward early in life entered his father's office, and from 1856 until January, 1863, was engaged under him on the construction of the Smyrna-Aidin Railway in Asiatic Turkey. He then acted for eighteen months as superintendent of the works for the extension of the Keyham Dockyard, which were carried out under the charge of the late Mr. Richard Townshend.¹

In the autumn of 1864 Mr. Jackson proceeded to Mexico, in which country he spent the remainder of his life. He was first employed for nine years as Assistant Agent to the late Mr. George B. Crawley, the contractor, on the construction and equipment of the Mexican Railway, a line 263 miles in length from the city of

¹ Minutes of Proceedings Inst. C.E., vol. xciii. p. 494.