

Crossness. His proposal was to purchase the Island and to dispose of the sewage there by filtration, and instead of barging the sludge out to sea to raise the surface of the land with it up to the level of the surrounding sea-wall. Mr. Denton maintained that by this means a valuable property would be created for the benefit of future ratepayers, the waste of valuable manure would be prevented, and that when all the surface of the island had been raised, the same method of procedure could be carried out on the low lands of Essex, near the mouth of the river. His principal works on the sewage question are: "Sanitary Engineering," a series of lectures given before the School of Military Engineering at Chatham in 1876, and "Fourteen Years' Experience of Intermittent Filtration," both of which are to be found in the Library of the Institution. He also wrote a Prize Essay for the Royal Agricultural Society entitled "On Land Improvements—Drainage, Farm Buildings and Cottages; by loans from Government or Public Companies."

Mr. Denton finally retired into private life in 1892, leaving his son and partners to carry on the professional work in which he had been engaged for upwards of sixty years. He died on the 19th of November, 1893, at Stevenage, Herts, where he had been a resident for more than fifty years and a county magistrate for nearly thirty.

Mr. Denton was elected an Associate of the Institution on the 5th of April, 1842, and was transferred to the class of Member on the 24th of January, 1860. Shortly after his election as an Associate he presented a Paper "On the Construction of Model Maps as a better mode than Sectioplanography for delineating the Drainage and Agricultural Improvements of a Country, or projected lines of Railways, Canals, etc." ¹; and in 1861 he read a second, entitled "On the Discharge from Under-Drainage and its effect on the Arterial Channels and Outfalls of the Country," ² for which he was awarded a Telford Medal.

CHARLES LAMBERT DEPREE, eldest son of Mr. Charles Templer Depree, Solicitor, was born in London on the 19th of February, 1845. After commencing his engineering education in the Applied Sciences Department at King's College, where he

¹ Minutes of Proceedings Inst. C.E., vol. ii. (1842), p. 155.

² *Ibid*, vol. xxi. p. 48.

obtained several prizes, he was articled in 1864 for three years to Mr. John Arthur Wright, under whom he was engaged on the construction of the Kidwelly Branch of the Carmarthen and Cardigan Railway, and subsequently on that of the Doncaster and Gainsborough line. He was next entrusted, in 1868, by Mr. W. Banks of Paris with the charge of a French process for coppering iron armour-plated ships.

In the following year Mr. Depree determined to try his chance in the colonies and, armed with several testimonials and letters of introduction, proceeded to Queensland. He arrived there, however, at a time when the colony was still suffering from the effects of a financial crisis and public works were at a standstill. After passing the Government examination and qualifying as a Crown Lands Surveyor, Mr. Depree opened an office in Brisbane as a Civil Engineer and Surveyor. About that time he introduced into the colony concrete as a building material, having first erected a house for himself to demonstrate its advantages. He at once obtained a contract for the extension of one of the State asylums, which was most satisfactorily carried out. In July, 1871, Mr. Depree entered the Government service, his first work in which was to design and take charge of the improvement of Ross Creek, Townsville. In the following year he reported upon some obstructions in the upper reaches of the Mary River and prepared a scheme for their removal, the chief feature of which was a system of locks. From that time until 1875 he acted first as Assistant Engineer, and subsequently as Resident Engineer, on the Brisbane extension of the Southern and Western Railway, under Mr. Henry C. Stanley and Mr. J. Thorneloe Smith. From 1875 to 1877 he was Resident Engineer in charge of the working-survey of the Warwick and Stanthorpe Railway to the border of New South Wales, a distance of 42 miles; and from 1878 to 1880 he occupied the position of District Engineer in charge of the construction of the Maryborough and Gympie Railway, about 60 miles in length.

For the next three or four years Mr. Depree was engaged on trial- and working-surveys of several lines in Southern Queensland, and in 1884 became Assistant Inspecting Surveyor of the Southern Division of the Railway Survey Branch. Two years later he was promoted to the post of Assistant Engineer and placed in charge of the Southern and Central Division of the Railway Survey Branch. In that capacity he was responsible, immediately under the Chief Engineer, Mr. Stanley, for the whole of the railway surveys in the amalgamated division. Un-

fortunately, however, anxiety and pressure of work caused his health to break down. In 1890 he obtained twelve months' leave and came to England, hoping to derive benefit from rest and change in a more bracing climate. He consulted several eminent physicians, who all told him that a long rest in a colder climate than that of Queensland was absolutely essential for the restoration of his health. Unfortunately this change had not the desired effect and, after a residence in this country of a little more than three years, he died at Southport on the 30th of August, 1893.

Mr. Depree was unostentatiously kind and sympathetic in all relationships of life and by his conscientious and honourable conduct gained universal respect, while his frank and good-natured disposition endeared him to a large circle of friends in all parts of the colony. He was elected an Associate Member of the Institution on the 31st of May, 1881, and was transferred to the class of Member on the 15th of November, 1889.

BRYAN DONKIN was the fifth son of Bryan Donkin, F.R.S., the inventor of the first practical machine for making paper in a continuous web, and one of the earliest members of the Institution. He was born in the neighbourhood of his father's engineering works at Bermondsey on the 29th of April, 1809, and was educated at Bromley, Kent, at various schools near London, and at Paris and Nantes. At an early age he entered his father's works and gradually rose till he became the senior partner in the firm. From the first he was interested in all matters connected with the profession and he soon became an active and valuable assistant to his father. He helped in the design and construction of paper-making, printing-, pumping-, and other machinery, and was much occupied in valuation and arbitration cases. He well remembered the first triangular-bar lathes; three were made, one for the Bermondsey works, one for Maudslay's, and the third for another firm. Before planing-machines were known it was necessary to make three lathes at a time, in order to get the bars perfectly true.

It was at this early period that he was brought into contact with several eminent engineers, among whom may be mentioned Isambard Kingdom Brunel,¹ Sir Henry Bessemer, John Penn the elder,² John Hall, Joseph Maudslay, Joseph Bramah, and John

¹ Minutes of Proceedings Inst. C.E., vol. xix. p. 169.

² *Ibid.*, vol. iii. p. 13.