

and the management and maintenance of the canals in the Karachi Division. In August, 1864, he was promoted to the rank of Executive Engineer, first grade, and was subsequently placed in charge of the Irrigation Department in Guzerat.

Mr. Jones was compelled by ill-health to retire from the service of the Bombay Public Works Department in 1872. He died at his residence, Beau Séjour, Jersey, on the 19th February, 1897. Mr. Jones was elected a Member on the 10th January, 1871.

ALAN MACDOUGALL, third son of the late Lieutenant-Colonel John Macdougall, was born in India on the 22nd May, 1842. After being educated at a private school, and at the Edinburgh Academy, he was articled in 1859 to Mr. Charles Jopp, who was at that time carrying out various works for the North British Railway Company. On the expiration of his pupilage in 1863, he was engaged on the Galashiels and Peebles branch of the North British Railway, and subsequently acted as Resident Engineer on the construction of the Dalkeith branch of that system.

On the completion of that undertaking in 1869, Mr. Macdougall went to Canada. His first work in the Dominion was the preliminary survey of the Toronto, Grey, and Bruce Railway, on the construction of which he was afterwards engaged as Resident Engineer. From 1871 to 1873 he was in charge of the North Grey extension of the Northern Railway of Canada, and in the latter year he entered the service of the Department of Public Works. In that service he was employed on harbour and river improvements on the western lakes and on the St. Lawrence until 1877, when he returned to Scotland and was engaged for a time on the North British Railway.

Settling again in Canada in 1883, Mr. Macdougall began to practise as a Consulting Engineer in Toronto, where he was largely employed in designing sewerage and waterworks for a number of towns all over the Dominion. He was engaged by the City of Toronto to report on the sanitary condition of Ashbridge Bay, and prepared plans for sewerage systems at St. Catharine's, Stratford, Peterboro', Belleville, Vancouver (B.C.), Brandon (Man.), and other places. The valuable assistance rendered during an outbreak of diphtheria at St. John's, Newfoundland, was such that he was solicited by the authorities of that city to accept the position of City Engineer, which, however, he declined. To the Institution, of which he was elected a Member on the 4th December, 1877, Mr.

Macdougall presented in 1883, in conjunction with the late Mr. J. C. James, a Paper on "The Western Division of the Canadian Pacific Railway,"¹ on which he was engaged as a Divisional Engineer, and subsequently, in 1896, a description of repairs to a submerged main at the Toronto Waterworks.²

Mr. Macdougall was a Fellow of the Royal Society of Edinburgh and of the Royal Scottish Society of Arts, and in 1880 received the last named Society's silver medal for his Paper on "Canadian Light Railways,"³ He was prominently connected with the Canadian Society of Civil Engineers, the organization of which was effected largely through his persistent efforts in 1887. For many years he served as a Member of the Council, and in 1894 was elected Vice-President. From the time of the organization of the association until his death he laboured faithfully to obtain such legislation as would make the Society a close corporation, not with the object of personal advantage, but in the hope that by this means the professional status of engineering would be elevated. He was without doubt the most enthusiastic and earnest advocate of professional ethics in the Society, and a perusal of the transactions of that body will show the time and attention which he devoted to the cause. An interesting Paper on the subject, entitled "The Professional Status, a Plea for a Close Corporation,"⁴ was read at the annual meeting in 1892, and elicited much discussion. Mr. Macdougall died at Exmouth, South Devon, on the 23rd April, 1897.

PHILIP JOHN MESSENT, born at Dover on the 7th December, 1830, obtained his engineering training partly from Mr. Joseph Gibbs⁵ and partly in the office of Messrs. Walker,⁶ Burges and Cooper.⁷ While with that firm he was engaged in making the preliminary survey and the contract drawings for the Tyne Piers, and in April, 1855, he assumed charge of the work as the representative of Messrs. Walker, Burges and Cooper. The North Pier was commenced in October of the same year and was carried out

¹ Minutes of Proceedings Inst. C.E., vol. lxxvi. p. 266.

² *Ibid*, vol. cxxv. p. 317.

³ Transactions Royal Scottish Society of Arts, vol. x. p. 451.

⁴ Transactions Canadian Society of Civil Engineers, vol. vii. p. 242.

⁵ Minutes of Proceedings Inst. C.E., vol. xxiv. p. 528.

⁶ *Ibid*, vol. xxii. p. 630. ⁷ *Ibid*, vol. xxii. p. 624.