

greater efficiency and economy were realized in the Government establishments, private undertakings expanded the scope of their activities, and a healthy spirit of emulation was created from which the industry and the community have reaped great and lasting benefit. Sir Edward also did useful work in recommending the adoption of the Maxim gun by the Government, and in urging the extension of Indian railways. The need for considerable extensions of the State railways was clearly established by Lord George Hamilton's committee, and from that time a more liberal policy was adopted by the Government in relation to the development of the railway system of India. From 1881 to 1886 he greatly assisted in obtaining for the members of the Indian Public Works Department improved leave and pension rules, as well as the abolition of the invidious term "uncovenanted," which previously was attached to Civil Engineers employed in that branch of the service.

Sir Edward was a Member of the Institution of Mechanical Engineers, and after serving some years on the council, he was elected to the office of President in 1887. He also represented that body on the committee of the National Physical Laboratory. As a vice-president of the Iron and Steel Institute, he was nominated to represent that body on the Committee on the Education and Training of Engineers. He also served on the departmental committee which enquired into the organization and working of the Royal College of Science and the Royal School of Mines, and as a member of the Carnegie Research Scholarship committee.

Sir Edward took part in many international exhibitions and was a member of the Royal Commission for the Paris Exhibition of 1900. The honour of a baronetcy was conferred upon him in 1892. He served the office of Mayor of Leeds in 1878, was Justice of the Peace and Deputy-Lieutenant for Surrey, and High Sheriff of that county in 1896-1897. In 1874 he married Mary, only daughter of Mr. John Rhodes of Potternewton House, Leeds.

He was elected an Associate of this Institution on the 1st December, 1863, was subsequently placed in the class of Associate Members, and was transferred to the class of Members on the 17th April, 1888.

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GAVIN GEMMELL DICK, born at Ayr in January, 1846, received his education at Ayr Academy, and served a term of three years in the workshops of Messrs. J. and T. Young of that town. On leaving their service he entered the Engineer's department of the Glasgow

and South Western Railway, under the late Mr. William Johnstone, with whom he remained 4 years. After a short period of employment at Carlisle, on the Settle and Carlisle branch of the Midland Railway, he proceeded to Edinburgh early in 1872 and joined the staff of Messrs. Blyth and Cunningham, civil engineers, of that city, being employed by them on the surveys and in the preparation of Parliamentary plans and working drawings for the new lines and works of the Caledonian and the Callander and Oban railway companies. At the end of 1875, having resolved to pursue his career in the colonies, Mr. Dick went to Australia, where he obtained an appointment as Engineer of Harbours and Rivers under the Queensland Government. During the 4 years he occupied this position, Mr. Dick was entrusted with the design and execution of many important harbour and river works, and the able and successful manner in which he carried out these undertakings earned for him the confidence of the Government, and led to his appointment in 1880 to the office of Executive Engineer to the Colony in London, a position of considerable trust and responsibility, which he retained until his retirement, owing to failing health, in April 1905. He died at his sister's residence in Ayr on the 23rd August, 1905, in his fifty-ninth year.

Mr. Dick was elected an Associate of this Institution on the 6th February, 1877, was subsequently placed in the class of Associate Members, and was transferred to the class of Members on the 15th November, 1881.

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CHARLES TOWNSHEND HARGRAVE, late Inspector-General of Roads and Bridges, South Australia, died at Adelaide on the 16th May, 1905, in his eightieth year. Born at Queenstown, Ireland, on the 24th December, 1825, he was educated at Liège, Belgium, and at Cork, and after serving his pupilage under the late Mr. A. Deane, Engineer to the Cork Harbour Board, he passed the examinations for County Surveyors, Ireland, and engaged for a short period in county work and private practice. In 1853 he went to South Australia and obtained an appointment under the Survey Department, and subsequently became Engineer to the Jetty Commission. In 1855 he was appointed Chief Surveyor and Engineer for Railways, in which capacity he superintended the surveys for many of the principal railways, and reported upon canal and river improvement schemes. In 1861 he became superintending engineer of main roads under the Central Road Board, continuing to act in that