

of Council in 1900, Vice-President in 1911, and President in April 1914, for the year 1914-1915, being the first engineer practising in Scotland on whom the honour of President had been conferred. While holding the office of President, Mr. Blyth was asked by the War Office to preside over a Commission, to be nominated by him from among leading Members of The Institution, to advise as to the designs, material, and method of construction in connection with the huttet camps throughout the country consequent on the great War. Most of the then existing huttet camps were inspected and a voluminous report was prepared and handed to the War Office for future guidance. He was also the first Chairman, and was largely instrumental in the formation of the Metropolitan Munitions Committee, but failing health ultimately compelled him to resign that position.

Mr. Blyth had many interests outside his profession. He contested the County of Haddington on three occasions in the interests of the Unionist Party; he was known both in Scotland and England as one of the keenest of golfers, and at the time of his death he was Chairman of the Edinburgh and District Tramways Company, and Director of the National Bank of Scotland, the Edinburgh Life Assurance Company, and the Royal Edinburgh Hospital for Sick Children. In 1873 he joined the Royal Company of Archers, which is the King's Body-Guard for Scotland, and remained a member during the rest of his life.

Mr. Blyth died at his summer residence in North Berwick on the 13th May, 1917, within a few days of completing 50 years of professional life.

JAMES FORREST passed away a few months after attaining the great age of 91 years, of which practically 75 were spent in the service, direct or indirect, of The Institution. He was born in Westminster on the 30th November, 1825, and began his professional training in 1842 as a pupil of Messrs. Edward and John Manby, but principally with the brother of these gentlemen, Mr. Charles Manby, who was then the Secretary to The Institution. Later, Mr. Forrest passed a probationary period as Assistant to Thomas Grainger, a well known North-country engineer, spent principally on railways in Yorkshire, and later became Assistant Secretary of the Society of Arts. He returned to the Civil Engineers in 1856, to succeed Mr. Manby in the Secretaryship with the title of Assistant Secretary, Mr. Manby retaining the title of Secretary until 1859, when the latter became Honorary Secretary, and Mr. Forrest was formally appointed Secretary. He had in fact during the preceding 3 years actually performed all the duties of, and had exercised, the full responsibility of Secretary. From this time onward Forrest was a leading spirit in the "forward" movement which resulted in The Institution throwing off the trammels imposed upon it by a rather timid policy of its earlier governing body, and affirming the proposition that, far from being restricted to engineers of roads, bridges, harbours, docks, light-

houses, and above all of railways, the Civil—that is, “civilian”—Engineer included all descriptions of engineers except those devoted to the military art. This view was the one adopted by Thomas Tredgold, and embodied in his classical description of an Engineer in the first Royal Charter of The Institution. Forrest's heart-whole acceptance of this view and his untiring advocacy of it resulted in the activities and membership increasing tenfold. The promotion of The Institution on these lines occupied his whole thoughts, it may be said, sleeping or waking, until his retirement in 1896. To the knowledge of the writer of this notice Mr. Forrest, after his official day at Great George Street, invariably took home with him the more important papers and documents which constituted the ordinary day's work, in order that he might concentrate his undisturbed thought on them. In this way he had to grapple with many difficult questions submitted to the Council, notably the embarrassing case of *Armstrong v. Russell*, which took a whole session to settle, at the same time that his energies were devoted to frustrating action outside which threatened to affect adversely The Institution's position. Above all, the delicate question of settling the status of the Student class with respect to the Members and Associates of that day was one that occasioned him anxious thought. But Forrest was especially successful in imbuing all who were concerned with the management of The Institution with a sense of their responsibilities towards the members, and it is remembered that at the banquet given to Mr. Forrest by the Council on his retirement one of its most prominent members playfully declared that he “ruled them with a rod of iron.” Be that as it may, successive Councils were always ready to receive with the utmost consideration his recommendations for enhancing the honour and dignity of The Institution. Indeed, it was felt that the ordinary observances which mark the long service of a valued officer were in Forrest's case quite inadequate, and in 1890 a movement for a general testimonial from the members of all classes was set afoot which resulted in the presentation of his portrait to The Institution, and of the formation of a fund which at his request was devoted to the endowment of an annual James Forrest lecture. That endowment has now been doubled by a bequest made in his will.

When he retired in 1896 a presentation made to him by past and present Members of the Council afforded him another opportunity of disposing of a sum of money, which was applied to the provision of the James Forrest Medal, to be awarded annually to the best Paper by a Student.

Mr. Forrest was elected an Associate of The Institution in May, 1852. He invariably disclaimed any title to professional distinction outside the routine of his chosen sphere, preferring to base his claim to the recognition of the members on a long period of service entirely devoted to their interests. He died at St. Leonards-on-Sea on the 2nd March, 1917, and a large concourse of eminent members of The Institution present at a memorial service held at

St. Margaret's, Westminster, testified to the regret felt at the passing away of one whose name had become as a household word to all connected with The Institution.

CHARLES AUGUSTUS HARRISON, late Chief Engineer of the North Eastern Railway, was born on the 27th March, 1848, at Vizianagram in the Madras Presidency, and died on the 28th October, 1916, at Hexham. On leaving Marlborough College in 1867, he became a pupil of Mr. Robert Hodgson, M. Inst. C.E., for a period of 2 years on the North Eastern Railway. He then entered the service of the Company as Resident Engineer in charge of dock works at Hartlepool, and afterwards on railway works. In 1888, on the death of his uncle, Mr. T. E. Harrison, he was appointed Engineer to the Northern Division of the railway, and he relinquished that position in 1914. From 1908 until his death he was Consulting Engineer to the Company.

During his charge of the Northern Division he carried out works of considerable magnitude for the provision and extension of railways and shipping facilities for mineral traffic in Northumberland and Durham—e.g., Dunston and North Blyth staithes, and the Annfield to Pelaw line—as well as the new Durham Coast line between Hartlepool and Seaham, and the Ponteland Branch, etc. His most notable works were the King Edward VII Bridge over the River Tyne (1902–1906) and the Queen Alexandra Bridge over the River Wear (completed in 1909), both of which have been described in the Proceedings.¹ He was also responsible for the necessary alterations and third-rail equipment for the electrification, in 1904, of the local lines between Newcastle and the coast.²

In 1910–1911 he served as Chairman of a Departmental Committee of the Home Office to inquire into the question of the danger to workmen involved in deep excavations.³ He was President of the Newcastle-on-Tyne Association of Students of The Institution for the Session 1894–1895. He was Lieutenant-Colonel in the Engineer and Railway Staff Corps (Territorial Force), and in 1906 he received the honorary degree of Doctor of Science from the University of Durham.

He was elected a Member of The Institution on the 10th April, 1877, and served as a Member of the Council from 1907 to 1914.

STEWART ANGUS, B.Sc., elder son of Mr. David Angus, M. Inst. C.E., was born on the 7th July, 1890, at Villa Rica, in Paraguay, and was killed in action near Hebuterne on the 1st July, 1916. Educated at Edinburgh Academy and University, he took his degree in 1912, in which year also he became assistant to Messrs. D. and C. Stevenson, M.M. Inst. C.E., after having served a three

¹ Minutes of Proceedings Inst. C.E., vol. clxxiv, p. 158; and vol. clxxxii, p. 59.

² *Ibid.*, vol. clxxx, p. 99.

³ Report of the Departmental Committee on Deep Excavations. Minutes of Evidence and Appendix. London, 1912.