

on the occasion of the visit of the Queen to inaugurate the equestrian monument erected in Charlotte Square to the memory of the Prince Consort. Sir James also filled the honourable office of Master of the Merchant Company. He was long connected with the North British Railway Company, of which he was elected Deputy-Chairman in 1881, and subsequently Chairman, an office which he held until 1887, when advancing age led him to vacate the more onerous position to again become Deputy-Chairman. It was during his tenure of the chair that the Tay Bridge was opened, and he had a lively interest in the still greater undertaking promoted by the Forth Bridge Company, of which he was the first Chairman.

Sir James Falshaw was elected an Associate of the Institution of Civil Engineers in 1854, and became a Fellow of this Society in 1866.

He was twice married—first, in 1841, to a daughter of the late Mr Thomas Morkell of Astley, who died in 1864; and again in 1871 to a daughter of Mr Thomas Gibbs, Norwood. Sir James was predeceased by Lady Falshaw, and left no family. He was not only recognised as a man of sterling integrity, but one of high Christian character, and though of a brusque demeanour, he had many friends. He was a Wesleyan Methodist, and in politics a Conservative. In the conduct of public business he was clear-sighted and hard-headed, utterly fearless, and full of energy and determination, and the results of his reign—both at the Town Council and Railway Board—were generally excellent, though it must be confessed, in the words of the *Scotsman*, that his impatience of long speeches and his laconic methods of conducting business, occasionally staggered the advocates of liberty of speech. In gratitude for his services to the city, his portrait was painted by subscription among leading citizens, and now hangs in the Council Chambers.

Dr Edmund Ronalds. By J. Y. Buchanan, Esq.

Dr Edmund Ronalds was born in Canonbury Square, London, in the year 1819. His father was Edmund Ronalds, merchant in London, and his mother Eliza Anderson, daughter of James Anderson, LL.D., also of London. His father's elder brother was Sir Francis

Ronalds, well known in connection with the origin of the electric telegraph. He was educated at a private school in England, after which he went abroad, and studied at Giessen, Jena, Berlin, Heidelberg, Zurich, and Paris. At Giessen he was the fellow-student of Hermann Kopp, Fresenius, Will, and other well-known chemists. He returned to England in 1840, and lectured on chemistry at St Mary's and the Middlesex Hospital. In 1849 he was appointed professor of chemistry in Queen's College, Galway. In 1856 he gave up his professorship, and took over the Bonnington Chemical Works, where the tar and ammonia liquor of the Edinburgh Gas Works were dealt with. At the expiry of the contract Dr Ronalds retired from business, and lived at Bonnington House until his death, on 9th September 1889. He was a constant attendant at the meetings of the Society, and although he rarely took an active part in its proceedings he always took a lively interest in everything that went on. He had an admirably appointed laboratory, with the use of which he was most generous; and among the numerous chemists who, either as students or teachers, have from time to time resided in Edinburgh during the last thirty years, there are none who do not remember him with affection.

Joseph J. Coleman. By Professor M'Kendrick.

Joseph J. Coleman died on 18th December 1888, in the 49th year of his age. Trained first as a chemist and druggist, he was early led to the study of chemical science, and so soon as in his 22nd year he contributed papers on chemical subjects to the *Proceedings* of the British Association. In course of time he became chemist to the Young's Paraffin Light and Mineral Oil Company, and in this capacity made original investigations on the gases produced in the distillation of bituminous shale. By submitting these to great pressure, at a low temperature, Mr Coleman obtained highly volatile liquid hydrocarbons. This investigation led him to the problem of the mechanical production of low temperatures, and to the invention of the well-known machine by which a low temperature is maintained in the holds of steamers conveying large cargoes of fresh meat from America and Australia. Along with Mr James Bell, the method was successfully carried out,