PROFESSOR JAMES GORDON GRAY, D.Sc., F.R.S.E., was born on the 19th May, 1876, and died on the 6th November, 1934. He was educated at Friars School (Bangor), the University College of North Wales, and the University of Glasgow. In 1896 he joined the staff of the General Post Office and worked for three years under the late Sir William Preece. Returning to the University of Glasgow, he took the degree of B.Sc. in 1901, obtaining special distinction in mathematics, natural philosophy, electricity, and laboratory practice. The University later conferred on him the degree of D.Sc. in recognition of his published work in the field of applied physics. In 1903 he took up the position of lecturer on Natural Philosophy at Glasgow, where in 1920 he was appointed to the Cargill Chair of Applied Physics. He was an authority on the application of the gyrostat to practical problems, and carried out a long series of researches on the use of gyroscopes in aerial and marine navigation and national defence. Much of this work was done in collaboration with his father, the late Prof. Andrew Gray, whom he assisted in the experiments shown when the latter delivered the Sixth Kelvin Lecture ("Lord Kelvin's Work on Gyrostatics") before the Institution in 1915. He also made a number of investigations on magnetic phenomena at low temperatures. He was elected a Member of the Institution in 1925.

JOSEPH PLATT HALL, son of the late William Hall, surgeon, of Salford, was born on the 8th September, 1864, and died on the 10th June, 1934, aged 69 years. On leaving school he was in 1881 apprenticed for 5 years to Messrs. Mather and Platt, of Salford. He passed through all the departments of the firm, but was especially attached to the electrical side, which in this country was not then very far advanced commercially. He took out his first patent in December, 1884, in conjunction with the late Holbrook Cushman, for the Cushman–Hall dynamo. Before leaving Messrs. Mather and Platt he went to Russia for that firm and erected electrical plant at Schlusselburg. He was subsequently employed by the Electric Portable Battery Co., Salford, as manager for about two years. Entering into partnership in Oldham with the late Mr. S. Charlesworth, under the name of Charlesworth, Hall, and Co., he began to make dynamos, high-speed steam engines, and searchlight projectors. The firm was one of the first in this country to supply complete portable searchlight plants for the use of ships passing through the Suez Canal. In 1892 he started in business on his own account as J. P. Hall and Co., at Werneth, Oldham. The company gradually increased in size, and carried out contracts for the Government and for the principal engineering firms throughout the country. From its earliest days the firm specialized in the manufacture of motors for use in connection with electric cranes. When war broke out the firm was very early Government-controlled, and throughout worked practically day and night on the manufacture of electric motors for munition factories. Mr. Hall was not only an electrical engineer but also a mechanical engineer, and the combination of these qualities was the keynote of his firm's success. He sold the business in December, 1931, and retired to live in Shropshire, where he died. He joined the Institution as a Member in 1900, being transferred from membership of the Northern Society of Electrical Engineers. He was very interested in archaeology and was a Fellow of the Society of Antiquaries. A. G. H.

LEONARD WILLIAM HOLMES was born at Newcastle-on-Tyne in 1859, and died at Worthing on the 21st November, 1933. Part of his early life was spent in Australia, but a year or two after the founding, in 1883, of the firm of J. H. Holmes and Co. as electrical engineers in Newcastle-on-Tyne, he returned to England and opened their London office, of which he had charge for many years. In those early times, nearly half a century ago, pioneering was the order of the day, and he had his share in many new and interesting developments in electrical engineering. His geniality and bonhomie will be vividly recalled; his were the manner and bearing that make men popular, and his persistence, added to his affability, was a great asset to him in his part in the building-up of his firm's business. One of the important early installations with the furnishing of which he was connected was that of Messrs. Maple and Co., of London. It was carried out in 1888, and was a notable generating equipment in its day, before electric supply had been generally brought to the doors of consumers by public undertakings. In many other directions he helped to spread the use of electricity; in 1897 he negotiated the acquisition by his firm of the patent rights for "Lundell" motors, which had a great vogue in their application to industrial electric drives, particularly in printing-works and newspaper-offices, where the development of the Holmes–Clatworthy duplex-motor principle led to the widespread adoption of the electric drive both at home and abroad. Mr. Holmes retired from the firm of J. H. Holmes and Co. in 1908, after an illness, and subsequently turned his attention to matters outside the electrical industry. He was elected a Member of the Institution in 1889. T. C.

WALTER BERNARD HOPKINS was born on the 19th July, 1863, and died on the 14th April, 1934. He was apprenticed to his father, the late Mr. G. D. Hopkins, a civil engineer, for five years, spending a year of this period as a resident engineer on the Ramsey–Somersham Railway. From 1887 to 1896 he was employed under his father on the construction of the East and West Yorkshire Union Railways and of various tramway systems in London. In 1896 he became a partner in his father's business. He was subsequently responsible for the plans of numerous electric tramway systems, including the Bradford–Leeds, Aldershot–Farnborough, Dundee–Broughty Ferry, Camborne–Redruth, Glossop, and Bath. At a later date he was engaged on engineering work in connection with the Maidstone–Ashford Railway. In addition, he promoted and successfully carried through the electric lighting schemes of several towns. A director for some years of Edmundsons' Electricity Corporation, the Folkestone Electricity Supply Co., and the Lancashire Electric Power Co., he also served as consulting engineer to Messrs. Siemens Brothers, for whom he undertook a world tour in 1918–19. He was elected a Member of the Institution in 1903.