

on the construction of the Bengal and North-Western Railway, and in 1912 he joined the Public Works Department, Sydney.

During the first World War Mr Campbell served in Palestine as a lieutenant of engineers with the Australian Imperial Forces.

In 1920 Mr Campbell accepted a lectureship in the National School of Engineering at Canterbury University College, and in 1922 became the first Professor of Civil Engineering there. He resigned the professorship in 1930 to devote his time to private practice. In this capacity he was associated with many important engineering works throughout New Zealand.

Mr Campbell was elected an Associate Member in 1912, and was transferred to the class of Members in 1946.

He was a member of the Senate of the University of New Zealand and of the Council of the New Zealand Institution of Engineers, of which he was President during the year 1946-47.

He is survived by a widow and four daughters.

WILLIAM EAMES CATON, who died on the 18th February, 1955, was born on the 18th March, 1879.

He was first employed, in 1896, by the Luton Gas Company, in 1902 by the Midland Railway Company, and from 1905 to 1916 by the Derby Gas Company as Deputy Engineer and Manager. Mr Caton was then appointed, in 1916, General Manager and Engineer of the Oxford and District Gas Company. He became Managing Director and Chief Engineer in 1932, and in 1934 became Managing Director of the South Midland Gas Corporation and of the Banbury Gas Light and Coke Company. Before his retirement in 1944, Mr Caton had undertaken a number of important gas plant installations, notably in Oxford.

Mr Caton was elected to the class of Members in 1927.

He is survived by his widow and a son.

BRIGADIER WILFRID DINSEY CHAPMAN, D.Eng., M.C.E., who died at Melbourne on the 6th May, 1955, was born in 1892.

He was educated at Camberwell Grammar School and at the University of Melbourne, where he graduated B.C.E. in 1923, and gained the degree of M.C.E. two years later.

From 1915 to 1919 he served with the Australian Imperial Forces, at first in the Army Medical Corps, and later in the Machine Gun Corps.

He joined the Victorian Railways Construction Branch as a junior in 1908 and after graduation was responsible for the design of important railway structures, being a pioneer in the application of electric welding to structures. The use of this process in the reconditioning of an old road and railway bridge over the river Murray in 1924 is considered to be the first application of electric welding to such an undertaking.

In 1931, he joined the staff of the E.M.F. Electric Co. in order to develop and extend the field of electric welding amongst practising engineers generally. In 1936, he joined the staff of Australian Paper Manufacturers to investigate the use of eucalypts for making pulp and became a leading authority thereon.

On the outbreak of the second World War he left Malcolm Moore Ltd, to serve abroad with the Army Field Workshop in the Middle East, being mentioned in despatches.

Upon demobilization in 1945, he became Director of Civil Engineering, Railway

Standardization Division of the Commonwealth, and carried out extensive studies of uniform railway gauge in Australia. From 1944 until his death he was a Commissioner of the State Electricity Commission of Victoria.

He was a foundation member of The Institution of Engineers, Australia, and President in 1944; he represented this Institution on the Conference of Engineering Institutions of the British Commonwealth in South Africa in 1950.

Dr Chapman was elected an Associate Member in 1931, and was transferred to the class of Members in 1941; he was Hon. Secretary of the Victorian Committee of Management from 1936-40, and Chairman in 1943-44.

He is survived by his widow and a son.

JOHN HENRY WALES LAVERICK, D.Eng. (Sheffield), who died at his home in Sheffield on the 23rd March, 1955, was born on the 20th July, 1865.

He served his apprenticeship at Riddings Collieries, Derbyshire in 1881-4, and then studied engineering in the Mining Department at the Yorkshire College, Leeds (now Leeds University) under Professor Arnold Lupton, M.I.C.E. In 1886 he became Surveyor and General Assistant at Riddings Collieries, and in 1889, Manager. From 1904 to 1906 he was General Manager at Newdigale Colliery, and in 1907 was appointed General Manager and ultimately Managing Director at Tinsley Park Colliery.

Mr Laverick retired from active colliery work in 1941, but continued his work as Chairman of the Renishaw Iron Co. Ltd, and Director of seventeen other companies, principally colliery, coking and by-product, and lime concerns.

He was elected to the class of Members in 1924. He was a Past-President of the Midland Institute of Mining Engineers.

He is survived by his sister.

GUSTAVE PAUL ROBERT MAGNEL, who died on the 5th July, 1955, was born in Belgium on the 15th September, 1889.

After taking his engineering degree at the University of Ghent in 1912, Mr Magnel joined the firm of D. G. Somerville and Company in London, where he was Assistant from 1914 to 1917, and Chief Engineer until 1919. From 1919 until 1927 he was Director of Studies in Engineering at Ghent University, and then was appointed Professor in the School of Engineering.

He was a member of the Académie Royale de Belgique, the American Concrete Institute, the American Society of Civil Engineers, and the Institution of Structural Engineers, and held a number of foreign awards and decorations.

Professor Magnel was the author of a number of standard works on concrete, "Pratique du Calcul du Béton Armé" (6 vols, 1946/9), "Cours de Stabilité des Constructions" (4 vols, 1948), "Le Béton Précontraint" ("Prestressed Concrete") (1948), and "Le Calcul de la Poutre Vierendeel" (5 vols, 1934), and in February 1949, he delivered a Lecture¹ to the Institution on "Applications of Prestressed Concrete in Belgium." Professor Magnel was a widely recognized authority on ferro-concrete, and evolved the system of prestressing that bears his name.

He was elected Member in 1950.

He is survived by his widow and two sons.

SIR FREDERICK LEIGHTON VICTOR MILLS, Bt, M.C., who died in Durban, South Africa, on the 21st April, 1955, was born in Northumberland on the 14th March, 1893.

Sir Victor was educated at Cheltenham College and at the Royal Military Academy,

¹ J. Instn Civ. Engrs, vol. 32, p. 161 (Apr. 1949).