

Irish Branch of the Town Planning Institute. In 1957 he was awarded the O.B.E.

Elected an Associate Member in 1935, he became a Member in 1952.

He was unmarried, and is survived by his mother, two sisters and two brothers.

**WILLIAM MACKENZIE, B.Sc.**, who was born on 29 June, 1886, died on 12 September, 1966.

Educated at Gallatown School, Kirkcaldy, he studied engineering at Edinburgh University, where he received the degree of B.Sc. in 1907.

After early experience on the staff of Messrs Rendel & Robertson (now Rendel, Palmer & Tritton) on dock and harbour construction at Kirkcaldy, he joined the Port of London Authority in 1911 as Assistant Engineer at Surrey Commercial Docks, under Mr F. Palmer, Chief Engineer. In 1912 he was posted to Tilbury Docks as Assistant Resident Engineer on contracts for the main dock extension and a deep water cargo jetty. Two years later he became Resident Engineer in charge of the construction and maintenance of a two-way floating bridge across the Thames between Gravesend and Tilbury—work which was carried out by the Port of London Authority for the War Office. After a short period at Head Office, he became Personal Assistant to Sir Cyril Kirkpatrick (M), Chief Engineer to the Port of London Authority, and from 1920–22 was Resident Engineer at the Victoria & Albert Docks. In 1922 King George V Dock was added to his responsibilities.

When in 1926 the Port of London embarked on a programme of major dock improvements, Mr Mackenzie was first appointed Resident Engineer for the work commencing at India and Millwall Docks. He was shortly transferred in the same capacity to Tilbury, when contracts for a floating landing stage, New Entrance Lock and Dry Dock—both still the largest on the Thames—had been let to Sir Robert McAlpine & Sons Ltd. Total contracts were estimated at £2 780 000. These works were completed in 1930.

In 1931 Mr Mackenzie joined the London & North-Eastern Railway as Chief Assistant Engineer for Docks and became Chief Engineer for Docks of the Humber and North-Eastern Ports in 1947. He gave up this position in 1951 on becoming Engineer (General Duties) to the Docks & Inland Waterways Executive of the British Transport Commission, continuing in the same capacity to the Docks Management Board from 1955 onwards, following reorganization. Two years later he also became a member of the Docks Management Board of the British Transport Commission. He retired in 1960, but continued as a Consulting Engineer for a further four years, his work including some time spent on the Port Talbot project for Messrs Rendel, Palmer & Tritton.

Mr Mackenzie took a deep interest in the Permanent International Association of Navigation Congresses and was appointed Secretary-General of the Nineteenth Congress, held in London in 1957 and inaugurated by H.R.H. The Duke of Edinburgh. He was made a life member and attended the annual meeting in Brussels in June 1966.

Recognized at home and overseas as a leading authority on every aspect of dock and harbour engineering, Mr Mackenzie, a tremendous worker himself, was always ready to help younger men in the profession. He was universally

respected and admired, and the docks he loved so well are his lasting monuments.

He was awarded the Telford Premium for a paper written in conjunction with Mr F. W. D. Davis on 'Major improvement works of the Port of London Authority, 1925-30'. P. 240 (1934-35), 258. Discussion, 320. Correspondence, 337.

Elected an Associate Member in 1913, he became a Member in 1928. He is survived by his widow, and three daughters.

**PROFESSOR JAMES HENRY NEAL**, who was born on 7 December, 1885, died on 13 September, 1966.

Educated at Devonport High School and Stoke Public School, he studied engineering at the Imperial College of Science & Technology (a Whitworth Exhibitioner, with scholarship) after six years' practical training at Devonport Dockyard. There followed from 1910-1914 brief periods as Lecturer at Birmingham Municipal Technical Institute, Assistant at the National Physical Laboratory, Teddington, Chief Technical Assistant to Messrs Handley Page, Ltd, and head of the engineering department, Doncaster Technical College.

In June 1914 he went to South Africa to become head of the mechanical and civil engineering departments of Natal Technical College, Durban, and over the next five years equipped new college laboratories and workshops and organized schemes both for part-time day classes for apprentices and for training ex-servicemen in mechanical engineering trades. Such was the standard of engineering work at the College that in 1922 it was taken over by Natal University College (affiliated to the University of South Africa), when he was appointed Professor of Mechanical Engineering there. New buildings for engineering work at the University were erected and Professor Neal designed and equipped new laboratories for mechanical and civil engineering. On the completion of this work in 1931 his connexion with the Technical College ended. Two years later he was elected Dean of the Faculty of Engineering, University of South Africa—a position he retained until 1949.

During World War II, he commanded an air training squadron of the South African Air Force, with the temporary rank of Captain.

In 1949 Natal University College became a university in its own right and Professor Neal was appointed Dean. On his retirement a year later he was elected Professor Emeritus (Mechanical Engineering).

Author of numerous technical papers, mainly on aeronautical research, Professor Neal was a foundation member and at one time President of the Natal Institute of Engineers, of which in 1950 he became an honorary life member. He was also an honorary life member of the Engineers Association of South Africa, an associate Fellow of the Royal Aeronautical Society and a member of the Institution of Mechanical Engineers. From 1946-1951 he served on the Screw Threads Committee of the South African Bureau of Standards. In 1962 he became a Doctor of Philosophy in Engineering.

Professor Neal played a vital part in the development, in Natal, of higher education in engineering science and technology. From colleagues he won universal respect and was popular with his students.

He was elected an Associate Member in 1913.

He is survived by his widow and two daughters.