

the rank of full Colonel in 1918. He received the Volunteer and Territorial Decorations and was mentioned in dispatches. In 1915 he was created CMG.

Returning to his work as county surveyor of Gloucester in 1919, he was appointed Deputy Lieutenant for the county, and in 1936 became a JP.

For four years before his retirement Colonel Sinnott was President of the Gloucestershire Branch of NALGO. In later life he took an active interest in Gloucester Cathedral and was for many years Treasurer of the Friends of the Cathedral—a post he relinquished only three years before his death.

For 76 years he was on the Roll of the Institution—surely a record. Elected to corporate membership in 1893, he was transferred to the senior grade in 1905.

On his hundredth birthday he was visited by representatives of the Institution, among them Sir Alfred Pugsley, head of civil engineering at Bristol University.

He was twice married and is survived by five daughters.



Alfred Dale Lewis, MA, DSc

who was born on 24 September, 1881, died in November 1968.

Educated in South Africa, he came to England as a young man to study engineering at King's College, Cambridge, and in 1904 took an MA degree. Later he was to receive an honorary DSc at Cape Town University.

From the first his interest was in irrigation—South Africa's foremost problem—and on this subject he was to become a world authority.

After a year's practical training under W. H. Hunter and H. Congreave

(FF), he started his career in 1904 with the Manchester Ship Canal, engaged on construction of new coal hoists and deepening a waterway: he also inspected irrigation works in Egypt. A year later he went to India to become Engineer in the Government of India Irrigation Department (Punjab), where after working on the reconstruction of head works on the Lower Jhelum Canal, he was put in charge of the Lower Swat River Canal. But after only two years he left India for South Africa, joining the Cape Colony's Irrigation Department in 1907 as Circle Engineer. He was at times also in charge of all irrigation work in each Circle of the Cape Province and the Free State—always directly under F. E. Kanthack (F).

Apart from the development of its gold, diamond and coal mines, the South African economy was at a crucial juncture at this time. Six years before, an expert on irrigation,* reporting to the High Commissioner for South Africa, Lord Milner, commented that for the past 50 years South Africa's development had remained stationary. Fifty years ago it was a pastoral country importing cereals and dairy produce and even hay from foreign countries. Fifty years ago it needed a farm of 5000 acres to keep a family in decent

* See 'Irrigation in South Africa' by W. Willcocks, 1901.

comfort. And 50 years later conditions remained the same. The cause was lack of irrigation in a country prone to too much or too little rainfall, plus irrigation laws derived ultimately from the common law of England and Holland. In these humid countries water problems were confined to driving water-wheels, washing wool, navigation, domestic usage, etc.—and the law did not favour the use of water for growing crops under irrigation. Changes in the law strongly urged on the High Commissioner by Willcocks opened up vast possibilities for South Africa and incidentally for irrigation engineers, and here Lewis came in on the ground floor. In the Cape Province and the Orange Free State he designed and supervised the construction of numerous irrigation schemes, bringing altogether 50 000 acres under irrigation at a cost of over £½ million. In 1913 he toured America inspecting irrigation works, afterwards writing a book on the subject, 'Irrigation and Settlement in America', published by the Government Press, Pretoria, in 1915.

In World War I Dale Lewis served first with the South African Infantry, then with a commission in the Royal Engineers with the 67th Field Company. Seriously wounded in France, he was later sent as Staff Major to Mesopotamia, in charge of the Tigris River Conservancy. The closing of the Chalala and Major Kabir branches of the Tigris to conserve navigation in the main channel were the chief works designed and carried out under his direct supervision.

Back in South Africa after the war, he became Senior Engineer at the head office of the Irrigation Department, Pretoria, but on the retirement of F. E. Kanthack from the post of Director of Irrigation for the Union of South Africa in 1920, Lewis was appointed Acting Director, and the following year became permanent Director of Irrigation, a post he held until 1941. It can fairly be claimed that the Union's increased wealth and stature by that date resulted to no small extent from the vision of a few irrigation engineers, of whom Lewis was one. It was he who laid down the broad outline of the Orange River Development Scheme, the first phase of which is now under construction at an estimated cost of R240 million.

He travelled widely, inspecting irrigation works in England, Spain, Italy, Egypt, Australia, New Zealand and Canada, later writing books on his findings. He also went to India and Kenya, and twice visited the United States. With a staff of 36, he initiated and directed the production of a topographic map of South Africa and always employed 12 surveyors on land surveys.

Lewis made a significant contribution to engineering literature on irrigation. He was for over 60 years on the Roll of the Institution, and from 1936–39 served as a Member of the Council representing South Africa. He was elected to corporate membership in 1907 and transferred to the senior grade in 1922.

He is survived by his widow and three children—two sons and a daughter.

Selected Works:

Books:

Irrigation and Settlement in America. Government Press, Pretoria, 1915.

Report on irrigation, water supplies for stock, water law, etc. Kenya Colony, 1925.

Water Law: Its Development in the Union of South Africa. Cape Town, 1933.

Irrigation in Australia. Pretoria, 1935. Tract folio, Vol. 79, Union of S. Africa Irrigation Dept Publication.

Papers:

'Run-off and Reservoir Losses at Van Wijk's Vlei.' *Proc. South African Society of Civil Engineers*, Vol. XIII, 1915.

'Silt observations of the River Tigris.' ICE Paper 4328.