

## OBITUARIES

## Dr. E. L. G. Clegg

THE hand of death has fallen heavily on the Geological Survey of India during the past few years; for we have lost in turn, and at a comparatively young age, Cotter (1941), Pilgrim (1943), and Christie (1944), all retired from the Department. Now we have to lament the death of a serving officer, Dr. Edward Leslie Gilbert Clegg, who passed away on September 8, 1944, some days after an operation in the General Hospital, Calcutta.

At the time of his death Clegg was director of the Geological Survey, having succeeded Sir Cyril Fox so recently as July 1943. For the purpose of helping in the great industrial expansion that is now seen to be necessary if India is to rise to her proper status in the world, the Geological Survey of India is in process of expansion to a strength much greater than before the unfortunate and ill-judged retrenchment of 1931. As Clegg had, throughout his service, shown himself to be possessed of a large modicum of common sense and a flair for administration, he was essentially the man for the job of director, and his untimely death must be regarded as nothing less than a calamity both to his Department and to India.

Clegg was born on February 24, 1894, at Manchester. He was educated at the Central High School (1904-12) and Victoria University, Manchester (1912-15 and 1919-20). He served through the War of 1914-18 as an officer in the Northumberland Fusiliers and saw much active service in France and Italy. After the War he returned to Manchester, took the M.Sc. degree in geology, and was then (1920) appointed an assistant superintendent in the Geological Survey of India.

For his first field-season, Clegg was posted to my party in the Central Provinces, and after accompanying me for a time, he was given an independent piece of work on the Archaeans of the Nagpur district. Except for water-supply inquiries, and charge of work in the Central Provinces and of sulphur operations in Baluchistan after his return from Burma in 1942, this proved to be the only field-work Clegg did in India *strictu sensu*. For in his second field-season he was posted to Burma, where practically all his field work was done in two spells. Between these two spells Clegg was at headquarters in Calcutta, first as curator of the Geological Museum, and then as officer-in-charge of the Geological Survey Office. During this period he acted also as lecturer in geology at Presidency College and at the Bengal Engineering College, Sibpur. In addition he took a keen interest in the Mining and Geological Institute of India, acted as one of the joint honorary secretaries during 1927-30, and was vice-president in 1943. He became a D.Sc. of Manchester in 1939.

In 1932 Clegg was promoted to the grade of superintendent, and placed in charge of the Burma Circle. On account of the approaching separation of Burma from India, it fell to my lot to devise a scheme by which geological survey work in Burma could be continued after separation; for Burma would then have no geologists, unless a portion of the Indian Geological Survey was to be cut off. The solution adopted was to form a new department, the Burma Geological Department, and staff it with officers seconded (on foreign service) from the Indian Survey for periods of five years at a time, until Burma could recruit her own geologists. Meanwhile the scientific

results of the work of the new Department were to be published in the *Records* and *Memoirs* of the Geological Survey of India, and this course has been followed up to date.

The separation took place on April 1, 1937, and Clegg became the first superintendent of the new Department, taking orders direct from the Government of Burma, instead of from the director of the Geological Survey of India. With the invasion of Burma by the Japanese, Clegg returned to India after making a valuable traverse through the Hukawng valley for the military (for a road through to India), emerging at Margherita in Assam in June 1942. It is perhaps not out of place to record that Mrs. Clegg, with Mr. and Mrs. Anil Dutt (also of the Indian Survey), travelling by a route since made famous by the 14th Army, escaped from Burma in March 1942 via the Kalewa-Kabaw valley and Tamu to Palel in Manipur, walking the whole way, with coolies to carry their few possessions and a servant to push or carry a bicycle. From Palel they continued by motor-bus through Imphal to Dimapur and thence by train to Calcutta.

While in charge in Burma, Clegg had occasion to visit most of the Burmese mineral deposits in order to advise the local government on their mining administration, and on the many problems that arise in the grant of mineral concessions. He also obtained an intimate knowledge of the Burmese oilfields while acting as resident geologist at Yenangyaung in 1935 and 1936. This experience enabled him to write a valuable account of the "Mineral Deposits of Burma", published by the Government of Burma (1940). He also contributed the articles on lead, silver, tin, wolfram, and zinc, to the last "Quinquennial Review of the Mineral Production of India", and finally, in 1944, a bulletin on tin and wolfram to the *Records of the Geological Survey of India*.

On account of his administrative duties, Clegg had less opportunity for systematic field survey work than would otherwise have been the case. Nevertheless he has two important memoirs to his credit. The earlier one, "The Geology of Parts of the Minbu and Thayetmyo Districts, Burma" (*Mem. Geol. Surv. Ind.*, 72, Pt. 2, 137; 1938), contains an account of his work in these districts, mainly during his earlier spell in Burma. In making use of the writings and maps of his predecessors and of contemporary workers in this and adjoining tracts, Clegg shows a capacity for digesting the work of others and of expounding the combined results with the impartiality of a balanced mind, qualities very useful for the director-to-be of a Geological Survey. Those who wish to follow the tangled story of the nomenclature of the Burma Tertiaries cannot do better than consult this memoir.

On his return to Burma as superintendent of the Circle in 1932, Clegg was set the task, with the assistance of Dr. Narayana Iyer, of making a detailed map of the Ruby Mines area of Mogok, which had already been commenced by Dr. Coggan Brown and Mr. A. K. Banerji, and for which new large-scale maps had been specially prepared by the Survey of India. In three field-seasons Clegg and Iyer completed this survey, but the results have not yet been published. Clegg was not satisfied that the marbles and gneisses of the Mogok tract were Archaean in age, as was generally supposed; consequently he seized every opportunity of making traverses in northern Burma (the defiles of the Irrawaddy, the Jade Mines District, Mongmit State) in a search for clues. This led to important results, with the discovery of a new foraminifer

(*Orbitolina birmanica* Sahni), regarded as of Upper Cretaceous age and found not only in the limestones and mudstones of both defiles of the Irrawaddy, but also in the limestones of the Jade Mines District, which in places are highly crystalline, with rubies and spinels. In consequence wide tracts of Upper Burma, both of sedimentary and volcanic rocks, are now regarded as Cretaceous in age, where rocks of this age were not previously suspected to occur. Clegg gives a full account in his second memoir "The Cretaceous and Associated Rocks of Burma" (*Mem. Geol. Surv. Ind.*, 71, Pt. 1, 1; 1941). As the original inspiration for this work was derived from his study of the Mogok area, it is not surprising that Clegg makes a valiant attempt to show that the ruby-bearing limestones of Mogok are also of Cretaceous age. Unfortunately, in his traverse across Mongmit State in the north to the Mogok area in the south he was frustrated by a "gap of about three miles between the definitely shelly limestone rocks of the Cretaceous series and totally re-crystallised and homogeneous limestones of the Mogok series" (*loc. cit.*, p. 29). The gneissic and schistose rocks of the Mogok area are, however, as highly metamorphosed as those of the Eastern Ghats area of India, or of Ceylon, being uniformly of hypometamorphic grade, including, for example, khondalite (see *Rec. Geol. Surv. Ind.*, 68, 27). I have myself twice visited the Mogok tract, once with Dr. Coggin Brown, and once with Dr. Clegg, and I find it difficult to accept the view that in the main the Mogok tract is not an Archean outlier of the Indian section of Gondwanaland. The Kamaing granite is, however, definitely intrusive in the Mogok series and may be of the same age as the granitic axis that forms the backbone of the Indo-Malayan Peninsula,

and is known to be post-Triassic in age and perhaps Upper Cretaceous. However, Clegg has disturbed the complacency of Archean enthusiasts, and should the Mogok gneiss, including the marbles, be eventually proved to be of much younger age, to Clegg will belong the credit of having created the doubt.

Besides being a good geologist and administrator, Clegg was a good athlete. He made many friends; and I personally look back with pleasure on times spent together in camp and at social gatherings, as well as to the splendid service he gave in all tasks both executive and administrative with which he was entrusted.

In 1926 Clegg married Helen Goode, a botany graduate of Manchester, and he leaves two sons.

For some of the facts of this note I am indebted to an excellent obituary notice in the October 1944 number of *Science and Culture*, by Dr. H. Crookshank, who has succeeded Clegg as director of the Geological Survey of India.

L. L. FERMOR.

#### WE regret to announce the following deaths :

Dr. Guy D. Bengough, F.R.S., consultant to the Chemical Research Laboratory of the Department of Scientific and Industrial Research, on January 20, aged sixty-eight.

Sir Buckston Browne, honorary fellow of the Royal College of Surgeons, a generous benefactor of the British Association, on January 19, aged ninety-four.

Sir Henry Gauvain, past president of the Sections of Electrotherapeutics and of the Diseases of Children of the Royal Society of Medicine, an authority on tuberculosis, on January 19, aged sixty-six.

## NEWS and VIEWS

### Prof. G. M. Bennett : Government Chemist

PROF. GEORGE MACDONALD BENNETT has been appointed to succeed the late Sir John Fox as Government Chemist. His appointment recalls those of two previous Government Chemists, Sir Edward Thorpe and Sir James Dobbie, each of whom was professor of chemistry before becoming Government Chemist.

Prof. Bennett received his earlier education at the East London (now, Queen Mary) College and proceeded to St. John's College, Cambridge, of which he later became a fellow after taking first classes in Parts I and II of the Natural Sciences Tripos. In 1917 he began original investigations in physical chemistry and on chemical problems of national importance at the time. After leaving Cambridge he was appointed successively demonstrator in chemistry at Guy's Hospital Medical School, lecturer in chemistry in the University of Sheffield and Firth professor of chemistry there in 1931. He was appointed to his present professorship in chemistry in the University of London at King's College in 1938. Prof. Bennett is also honorary secretary of the Chemical Society—an arduous office which brings the holder into contact with chemists generally and with chemical and organization problems of diverse types.

Prof. Bennett's record as an investigator is outstanding. He has made major contributions particularly to organic chemistry and to the stereo-

chemistry of sulphur compounds. He is a crystallographer, and his application of this science in his stereochemical investigations has been of great importance. As a physical chemist he has contributed to our knowledge of surface energy, valency angles and the mechanism of the formation of heterocyclic ring systems. It can be confidently predicted that Prof. Bennett's tenure of the unique office of Government Chemist will be distinguished from all points of view; he has a ripe experience not only of many branches of his subject but also a wide knowledge of men and affairs.

### Chair of Chemical Pathology, University College Hospital Medical School : Prof. C. Rimington

DR. RIMINGTON, former scholar of Emmanuel College, Cambridge, has been appointed to the chair of chemical pathology at University College Hospital Medical School. After a distinguished career in Sir Frederick Gowland Hopkins' laboratory at Cambridge, he organized the Biochemical Research Department of the Wool Industries Research Association at Leeds, and then for six years held a senior research fellowship of the Empire Marketing Board at the Onderstepoort Veterinary Research Laboratory in South Africa. In 1927 he was appointed to the staff of the National Institute for Medical Research, Hampstead.

Dr. Rimington's work has covered many fields of biochemistry, proteins, plant poisons and porphyrins,