## OBITUARY

Raymond Lewthwaite, C.M.G., O.B.E., D.M., F.R.C.P.

DR RAYMOND LEWTHWAITE, a former director of the Institute for Medical Research, Kuala Lumpur, died in London on 20 March 1972 at the age of 77.

Educated at Magdalen College, Oxford, and the Middlesex Hospital Medical School, Dr Lewthwaite came to Malaya in 1926 as a research student in tropical medicine. He was posted to the Institute for Medical Research for work on tropical typhus, an infection which Dr William Fletcher and Dr J. E. Lesslar had identified in their distinctive urban and rural forms shortly before. Fletcher retired from the Malayan service a year later and Lewthwaite took over from him the typhus investigations which were to be his main research interest throughout his career in Southeast Asia.

He was appointed pathologist to the Institute in 1928 and Director in 1941. During this period, assisted by Dr. S. R. Savoor, he made important contributions to knowledge of the epidemiology, pathology, clinical features and zoological background of the typhus fevers of Malaya. He clarified the confusion in nomenclature and identity, showing that the mite-borne forms of typhus known as "rural" or "scrub" typhus and as tsutsugamushi disease are essentially the same, and his painstaking efforts to establish the virus in laboratory animals were a model of patient and rewarding endeavour.

Extending the studies to the urban form of typhus, he isolated the virus from man and from rats and, infecting fleas with the virus, he showed the faeces to be infective — investigations which formed a link in the chain of evidence that fleaborne typhus has a world-wide distribution and that the domestic rat is the reservoir of infection. Twice, in 1934 and 1936, he was commended for research by the Secretary of State for the Colonies and in 1937, his work was recognised by the award of the North Persian Forces Memorial Medal. Admitted in 1939 to membership of the Royal College of Physicians, he became a Fellow of the College in 1948.

He left Malaya under orders from the Administration just before the Japanese forces entered Singapore, taking with him the typhus strains with which, in the Commonwealth serum laboratories of Australia, he was to attempt the preparation of a protective vaccine.

Meanwhile, British workers had produced a

vaccine which seemed to hold greater promise. Heavy casualties from typhus had been reported among the Allied troops in Burma and field trials of the new vaccine were imperative. Lewthwaite was recalled from Australia to promote the trials and was attached to the Southeast Asia Command as Field Director of the Medical Research Council Typhus Committee. But the campaign was nearing an end when the first batch of vaccine reached Burma late in 1944 and the trials, hampered by the changes in troop dispositions with the rapid advances of 1945, were inconclusive.

Soon after the cessation of hostilities, he returned to Kuala Lumpur. He re-established the Institute as an effective research organisation and continued in Malaya the British and Allied typhus work of the war period.

His wartime liaison with American workers was soon to bring an unexpected dividend. In 1948, a U.S. Army Medical Research Team was accorded the hospitality of the Institute for clinical trials of Chloromycetin in scrub typhus. Collaborating with Lewthwaite and Savoor, the team treated typhus patients with the new antibiotic and showed that the fever was quickly brought under control — a dramatic demonstration of the first effective remedy. No less successful were the later field trials which established the protective value of the drug among persons exposed to typhus in heavily-infected territory.

He left the Malayan service in 1949 to take up in London the appointment of Director of Colonial Medical Research. In 1961, he became Medical Research Adviser to the Department of Technical Co-Operation, and from 1964 until 1968, he served the Ministry of Overseas Development in a similar capacity. For 12 years, until his retirement in 1971, he was a Council member of the Royal Society of Tropical Medicine and Hygiene.

He continued in this wider field of responsibility to promote the interests of medical research in Malaya and his personal contacts with Malayan workers were not lost; but his former colleagues and their successors will best recall the achievements and attitudes of his earlier years — his fundamental studies on tropical typhus, his confidence in the international approach to the problems of tropical disease, and his inspired guidance and support in the American effort which gave to the peoples of Southeast Asia the first effective remedy for one of their most serious fevers.

J.W.F.