

the classes covered by State insurance. It was made clear that the safest rate of reproduction for both mother and offspring was the *modal* rate, that is, when the first pregnancy occurred when the mother was round about twenty-five years of age, the second, third and fourth between the ages of twenty-five and thirty and not more than three pregnancies in the next five years. *On the whole*, this rate was observed only by the lower paid members of the community. As income (or security of tenure) improves, there is a tendency to postpone the first pregnancy, with obviously a shortening of the reproductive period and, statistics

showed, with a consequent increase both in maternal mortality and in the number of still-births. The increase in still-births is almost offset by the decrease in child mortality. The result of this is that those who are least able to obtain the necessary food for full health are the very people who are contributing most to the maintenance of the population. To improve the condition of the child-bearers and incidentally of the children born, education in food values and other physiological truths is not of much use unless the necessary food and service are available at a price to suit their incomes and conditions of life. D. B.

Obituary Notices

Mr. A. Sharples

MR. ARNOLD SHARPLES, formerly mycologist in the Department of Agriculture, Federated Malay States and head of the Pathological Division of the Rubber Research Institute of Malaya, died at St. Anne's-on-Sea on August 6, after a long illness.

Mr. Sharples was born at Great Harwood, Lancashire, on November 25, 1887. He received his elementary education at Stoneyholm School, Burnley. He left school early, but later, overcoming great difficulties, he became a student at the Burnley Technical College, where in 1908 he won a scholarship to the Royal College of Science, London, and at the same time was awarded King's prizes in both geology and mineralogy. At the Royal College of Science he was especially interested in botany and came under the notice of Sir John Farmer as a particularly promising student. He became an associate of the Royal College of Science and was awarded the diploma of the Imperial College of Science in 1912. His interest in mycology had already been stimulated by his association with north-country naturalists, especially the late Mr. James Needham of Hebden Bridge. On leaving the Royal College of Science he was appointed assistant mycologist in the Department of Agriculture, Federated Malay States, but before going to the East he spent some time at Kew to extend his knowledge of mycology under the direction of the late Mr. G. Masee and Miss Wakefield. All his professional life was spent in Malaya. In 1916 he was appointed chief mycologist in the Department of Agriculture, and in 1930 he was seconded from Government service to be head of the Pathological Division of the Rubber Research Institute of Malaya, situated at Kuala Lumpur. He retired in 1934 and settled at St. Anne's-on-Sea.

During the Great War he served in Mesopotamia (1917-19) as a lieutenant in the Royal Engineers. In this capacity he was concerned with the purification of water supplies for the troops.

From the time of his arrival in Malaya until his retirement, Sharples was a most energetic and able investigator of the diseases of tropical crops, especially rubber. From 1914 onwards there was a constant stream of papers from his pen, published by the Department of Agriculture or the Rubber Research Institute, or appearing at home in the *Annals of Botany* and the *Annals of Applied Biology*. At one time or another he covered the whole range of rubber tree pathology. He treated exhaustively, sometimes in association with colleagues, such diverse topics as the spotting of plantation rubber by mould fungi, pink disease, the root and branch disease of rubber trees caused by *Ustilina zonata*, mouldy rot and brown bast of the tapped bark, lightning damage to coco-nut and rubber trees, and callus formation in tropical plants. These and other investigations were marked by thoroughness and insight. Sharples was not content merely to investigate a disease sufficiently to give advice to planters, but being interested in the fundamental aspects of plant pathology, he examined in great detail the relations of plant and parasite or other disease-producing agency in connexion with environmental conditions. His account (with H. Gunnery) of callus formation in *Hibiscus* and the rubber tree (*Annals of Botany*, 1933) is probably the best description available of the development of this tissue. His wide botanical interests prevented him from becoming a narrow specialist. Sharples was an example of the best type of officer in the tropical departments of agriculture, who realizes both the practical and the fundamental issues involved in problems of crop cultivation.

Sharples had a profound knowledge of all matters concerning rubber cultivation in Malaya, and his advice was constantly sought by the planters, with whom he was always on the best of terms. They had complete confidence in him. He will long be remembered with gratitude by the planting community of Malaya. During his service with the Rubber Research Institute he acted as director for a period.

After retirement, Sharples devoted his leisure to writing an up-to-date book on the "Diseases and Pests of the Rubber Tree" (Macmillan and Co., Ltd., London, 1936). This was a most notable addition to books on the diseases of tropical crop plants; it is, in fact, a treatise on the principles of plant pathology with particular reference to rubber cultivation, and is eloquent testimony to the enlightened outlook which Sharples had on the problems of disease in plants. Unfortunately his health began to fail shortly before the publication of this book, and he died at the early age of forty-nine years. It is sad to think that after such a strenuous life in the East he did not live to enjoy the leisure he had so richly earned.

Personally, Sharples was something of a 'rough diamond', albeit his outspokenness became mellowed with age. He was entirely sincere and courageous in his opinions, and no one was ever a more loyal and kindly friend than he. His high achievement in spite of early handicaps is striking testimony to his sterling character. In an enervating climate he maintained his energy in an astonishing manner: tropical ennui never affected him. In any joint investigation he always pulled his weight, and generously shared credit with his colleagues. As a young man, he was keen on association football and in later life he was fond of tennis and golf. He married Edith Thornton in 1917, who survives him. There were two sons of the marriage, one of whom died a few years ago.

Prof. J. G. Thomson

PROF. JOHN GORDON THOMSON, director of the Department of Medical Protozoology at the London School of Hygiene and Tropical Medicine, whose death took place in London on August 13, was one of the few outstanding medical protozoologists in Great Britain. In addition he was, and continued to be until shortly before his death, a well-known investigator of tropical disease in the field.

Prof. Thomson commenced his career at the University of Edinburgh, where he graduated M.A. in 1903 and where he qualified in medicine with honours in 1908. Two years after qualifying he was appointed Durning-Lawrence research fellow in tropical medicine at Liverpool and later, 1912-13, pathological research fellow at the Liverpool School of Tropical Medicine. During his time at Liverpool, where he worked under Sir Ronald Ross, he carried out many researches on trypanosomiasis and on cultivation of the malaria parasites. His work in this last connexion, which was done largely in collaboration with his brother, Dr. D. Thomson, was perhaps that for which his name was best known.

In 1914 Prof. Thomson was appointed lecturer in protozoology at the London School of Tropical Medicine, but on the outbreak of the Great War he joined the Forces and proceeded in 1915 to Egypt, first as member of a commission to study bilharzia in that country and later as protozoologist to the Central Military Laboratory at Alexandria. On his

return to England he was appointed officer in charge of the Malaria Research Laboratory at the War Office, where again he was associated with Sir Ronald Ross. Whilst in Egypt and later, he published many papers on amoebic dysentery and other intestinal protozoal conditions, as well as studies directed to the finding of satisfactory serological tests for malaria.

In 1918 Prof. Thomson took up the duties of the appointment at the London School of Hygiene and Tropical Medicine which he held at the time of his death; there he worked in post-graduate teaching and in the carrying out of many researches. In 1921 and again in 1922 he went on an expedition to study blackwater fever in Rhodesia. The results of these investigations were presented in a memoir, published by the School, which is now one of the best-known standard accounts of this disease. In 1924 he visited the West Indies, Honduras, Guatemala, Costa Rica and Panama. In 1934 he visited and carried out investigations in Nyasaland, studying more especially the indigenous malaria, and at various times he visited other tropical countries. In the intervals of travelling and demands made on his time by teaching, he published many papers on protozoological subjects and was joint author in Thomson and Robertson's "Text Book of Protozoology", a very useful and condensed source of information on the subjects dealt with.

Though Prof. Thomson worked at many different problems, the malaria parasites were always his favourite study, and even up to shortly before his death the nature of malarial immunity and drug treatment in malaria were much engaging his attention. Prof. Thomson's name is one familiar to research workers in tropical medicine both of British and of other nationalities, and his death will be a loss not only to his colleagues and many friends but also to a very wide circle where his work was known and appreciated.

Prof. Luigi Pernier

WE regret to record the death of Prof. Luigi Pernier, professor of archaeology and the history of ancient art in the University of Florence, which took place in Rhodes at the age of sixty-two years in August last, while he was attending the Dante Alighieri course of "Alta Culture". His death is a great loss to archaeological studies in Italy, more especially in connexion with the investigation of the sites of the early civilizations of the Mediterranean area.

Luigi Pernier was born in Rome on November 23, 1874. On completing his education, he was appointed to the Administration of Antiquities, and took part in the Italian archaeological mission to Crete in 1900, acting as director of the excavations at Festos. In 1909 he was appointed director of the Royal Italian School of Archaeology at Athens and of the "Missioni Italiani in Oriente". While he was head of the School, archaeological explorations were carried out in Crete, Delos, the Sporades and Euboea under his direction. In 1916 he was appointed director of the