

vaccinated. Infantile and maternal mortality have been reduced by a half since 1949. A very interesting development has been the mobilization of the old-fashioned practitioners who follow the traditional system of Chinese medicine; they have been instructed sufficiently in modern medicine to enable them to play a valuable part as inoculators, dressers and givers of first-aid who can deal with minor complaints. Midwives have also been systematically re-educated. The health-education movement, in which all possible methods of publicity are employed, and in which every member of the community participates, is almost unprecedented in history, and constitutes the active execution of measures formerly vainly urged by successive international health organizations. It reaches into the remotest corners of the country.

Naturally, all this costs money, but it is not spared. For scientific research institutes as a whole, the budget for 1952 was ten times that of any year in the Kuomintang period, and for 1953 the four-fold expansion planned will bring it to no less than forty times. Thinking of former conditions, I asked last summer when visiting the Laboratory of Entomology of the Academy how many research workers there were, perhaps a dozen or so; and received the reply that they had more than fifty, though quite a number were away on field expeditions.

The effectiveness of collaborative scientific work is also much greater than before. Dr. Li Ssu-Kuang told me that whereas, under the Kuomintang, meetings of scientists could scarcely ever do more than pass resolutions which were never executed, the atmosphere in the New China is much more practical. For example, at the beginning of 1950 a conference of geologists in Peking took decisions concerning field-work for a number of units, and, before six weeks were out, more than eighty geologists were on the way to the north-east, the north-west and central China, to study the structural geology of the areas and to search for iron, coal, oil and non-ferrous metals. The greatest importance is attached to the geological sciences as vital for the development of China, and in August 1952 the Geological Survey was raised to the status and title of a Ministry, with Li Ssu-Kuang (J. S. Lee) as minister. There can be no other nation where the sciences of the earth are so highly regarded.

The close union between science and the people in New China is a fact which must impress every Western visitor who spends some months in the country. Perhaps by the very fact that the standard of their life was formerly so low, they look to science and technology as one of the great forces able to lead them into a state of freedom from poverty, disease and want. Chinese scientific workers are now inspired by this faith and trust. Moreover, they are given the means to respond to it. Dr. Li himself has written: "In the situation which has arisen with the victory of the Chinese people's revolution, it will readily be understood that science is no longer looked upon as an esoteric activity reserved for a leisure class, but as a public enterprise to be shared by all people, who instead of being reticent as formerly, now conscious of what they need, raise their voices in positive demands in every walk of life. It can now be said that in every sphere, the people will accept nothing that is mechanically imposed on them. They are determined to make their own choice in matters of policy, a choice which demands knowledge and the scientific outlook".

## OBITUARIES

### Sir Charles Arden-Close, K.B.E., C.B., C.M.G., F.R.S.

SIR CHARLES FREDERICK ARDEN-CLOSE, who died at Winchester on December 19, was born in Jersey on August 10, 1865. He was the eldest son of Major-General Frederick Close, of Shanklin, Isle of Wight, and took the name of Arden-Close in 1938, in compliance with the terms of a bequest.

Commissioned in the Royal Engineers on July 5, 1884, Close served first at Gibraltar, and later with the R.E. Balloon Detachment. In 1888 he was ordered to India, and, next year, joined the Survey of India, gaining in that service a varied experience of practical surveying which he put to good use in later years.

In 1893 Close returned to England, and, two years later, was placed in charge of the survey of the Nigeria-Kamerun boundary. After this he joined the Ordnance Survey in Great Britain, and in 1898 was appointed British Commissioner on the Tanganyika-Nyasaland Boundary Commission. Having completed this work, he returned to the Ordnance Survey, and, in 1900, was ordered to South Africa in charge of a small R.E. survey detachment. He contracted enteric fever, however, and soon had to return to England, rejoining the Ordnance Survey as soon as his health had been restored.

In 1902 Close was appointed instructor in surveying at the School of Military Engineering, Chatham, and, while there, prepared his well-known "Text-Book of Topographical Surveying", which quickly became, and has remained ever since, the standard work on the subject throughout the British Commonwealth.

In 1905, he became chief of the Geographical Section of the General Staff at the War Office, and in that capacity played a prominent part in securing the establishment of the Colonial Survey Committee, and in drawing up the working rules for the production of the *Carte Internationale du Monde au Millionième* at the London Conference of 1909.

In 1911 Close was appointed director-general of the Ordnance Survey, holding this appointment throughout the First World War. Naturally, the War interfered with the civil work of the Survey, but the department sent a detachment to France in 1918, and printed enormous numbers of maps for the armies in France and elsewhere.

Sir Charles retired in 1922, but continued to devote himself to geographical work and study. He became president of many geographical organizations, and, with his wide knowledge and dignified yet genial personality, filled these offices with unusual distinction and success. He was president of the International Union of Geography during 1934-38, president of the Royal Geographical Society during 1927-30, president of the Geographical Association in 1927, and also, for many years, chairman of the Palestine Exploration Fund.

Sir Charles married, in 1913, a daughter of Mr. Thomas Percival, of Shanklin, and had two sons and a daughter. He was the recipient of many honours and distinctions. He was made a C.M.G. in 1898, a C.B. in 1916, a K.B.E. in 1918, F.R.S. in 1919, and he received an honorary Sc.D., Cambridge, in 1928. In 1914 he gave the Halley Lecture at Oxford, and, in 1927, was awarded the Victoria Medal of the Royal Geographical Society.

M. N. MACLEOD