But the Inspector-General of the day, Ribbentrop, who had had long experience in Burma as a forest officer, won his case: and all the more easily since it was possible to point to the Pegu Forests thirty years after Brandis had stopped unchecked fellings, and compare them with the position of the cut-out Malabar Forests in 1830 and Tenasserim in 1845.

The reservation of the forests went steadily forward during the last thirty years of the century. Another matter, first enunciated by Brandis, but not actually put into practice by him, was to make use of the nomadic shifting cultivation habits of the Shans and Karens by getting them to sow teak seed or plant in teak plants with their (shifting) cultivation. The idea was not new: both in France and Germany the practice had been in force in the past. In Burma the term 'taungya' had been given to the method, from the Burmese word for shifting cultivation. Considerable patches of young teak poles existed at the end of the century about the country, but as no record or map had been kept they had mostly been lost to sight in the encompassing forest. In the early years of the present century the method fell into abeyance, but was revived at Tharrawaddy during the second decade of the century with very great success. This practice was adopted in the case of *sal* in Bengal and spread throughout India and out to Africa and other parts of the Empire. I saw it in practice by the French forest officers in the Ivory Coast in 1934, copied from the work of British officers in Nigeria.

Forest administration based on sound sylvicultural management and finance made great progress in Burma during the first two decades of the present century. The First World War proved the soundness of the foundations laid. Great demands were made upon Burma to supply the requirements in Mesopotamia, and several other species besides the now commonly used ones, teak and pyinkado, were utilized, some remaining on the market afterwards.

Since the first successful attempt at protecting an Indian teak forest from fire (in the Central Provinces) during the hot-weather season in India had passed successfully, a fire protection system had been devised for all the reserved forests in India and Burma. Fires occurred annually; but the wholesale scale of former times had come to an end. At the beginning of the present century fire protection in the moist teak forests in Burma was called in question. It was found that a low growth of evergreen shrubs covered the forest floor, through which no teak seedling could penetrate. Careful examination showed this to be true in both the moist teak and moist *sal* areas (in India). Fire protection was, therefore, given up save in the very young new woods. As an outcome, a practice termed 'early burning' was adopted, with good results.

To the trained and experienced forest officer, the test of the efficiency, thoroughness and permanency of a forest administration can be studied in one way and one way only—by the presence of working plans in the area of forest administered, the degree of intensity on which the working plans are drawn, and the manner in which they are worked. A forest under a well-drafted working plan, which has passed the scrutiny of the higher forest authority, and been sanctioned by the civil administration of the country, is as safe as man can make it. Such plans laying down the whole management of the forest are usually drawn up for ten-year periods. Burma holds a high place in this important practice of the correct administration of a forest. It is understood that no serious damage to the teak forests was done during the Second World War. Teak is chiefly a timber felled for export. During the War, all teak exports ceased and the Japanese did not undertake any serious fellings in the teak areas, only cutting what they required for their military forces. In 1939 it may be said that Burma could show as fine a series of working plans for great forests from, to quote examples, the plans for South Toungoo and Tavoy in Tenasserim, South Pegu, Zigon and the Northern Shan States, to the Mu and Katha Forests and those of the Chindwin in the north. The work is not finished. For example, some of these working plans have been revised or re-written several times since the early days of the first real working plan (omitting the 'paper' or purely volume statistic plans of Brandis' day) of the early 'eighties. Others are first plans, as, for example, the Mu working plan drawn up for the period 1929–30 to 1938–39.

The total area of the Government reserved forests in Burma in 1938–39 on March 31, 1939, was 20,100,221 acres. The total volume of teak timber felled during 1938–39 was 1,402,548 cubic feet. The total volume of teak timber exported in 1938–39 was as follows in cubic tons: teakwood, 203,596; teak sleepers, 609; teak squares, 59,385; teak conversions, 137,401; teak round logs, 6,209; total, 407,200 cubic tons; teak keys (in tons), 4,753.

That long role of British forest officers which commenced with Brandis more than ninety years ago is now to terminate. They have done a magnificent work for Burma, and have left a great heritage to the Burmans. The latter are now going to take full control of this finely tempered forest administration and these enormously valuable forest estates. In bidding a farewell we can but wish them all success, coupled with the warning that there is no other property in the world which can be so insidiously depreciated, since it inevitably takes a term of years before the effects are perceivable or can be appreciated.

OBITUARIES

Dr. Cyril Strickland

Dr. Cyril Strickland, who died on November 3 in Jersey, aged sixty-six, was born in Cape Colony. He was educated at St. Andrew's College, Grahamstown, and at Oundle School.

After graduating with first-class honours from Caius College, Cambridge, he went to St. Bartholomew's Hospital, London, but before completing his medical course he accepted an invitation to study protozoology at Cambridge under Prof. G. H. F. Nuttall, whose assistant he became. During his tenure of this appointment he found time to take his degree in medicine. He also made the interesting and important discovery that the trypanosome of the rat was normally transmitted from rat to rat through the alimentary route by the mastication of infected fleas and not by the bites of the fleas as had previously been assumed.

In 1912 he went to Malaya to work on the malaria problem on behalf of the Government of the Federated Malay States.

Dr. (now Sir) Malcolm Watson had already been conspicuously successful in controlling by drainage the malaria of the flat coastland of Malaya; but the disease in the upland jungle remained a baffling problem. Strickland has described how, in the

course of his work, he found that the jungle in Malaya remained free from malaria until clearing operations produced suitable conditions for the breeding of the vector mosquitoes. This discovery was published in a Government Paper in 1915; its importance was at once recognized, as was shown by the issue of an official prohibition of the clearing of jungle over collections of water without special permission. In India it was hailed as a "brilliant discovery".

In 1922 Strickland became the first professor of medical entomology at the recently established Calcutta School of Tropical Medicine and Hygiene, and during his seventeen years tenure of this post he was able to give a practical demonstration of the value of his discovery by enlisting the enthusiastic co-operation of the medical men, managers and agents of the tea gardens of Assam and north Bengal. The remarkable improvement in the health of the workers in these gardens is believed to have been due for the most part to the policy of maintaining a dense leafy shade over all waterways.

A problem closely studied by Strickland during his long period of fruitful work in teaching and research at Calcutta was the influence of land structure on malaria; he made a special study of the deltas of the Ganges and Brahmaputra and in 1939 published his "Deltaic Formation" (Longmans, Green and Co.). He hoped eventually to correlate the vast amount of data that he had collected regarding the incidence of malaria in eastern India with his survey of land formation, but he was unable to complete this study because of being compelled to retire in 1939 by the superannuation rules of Government. He was then employed by the Army in organising malaria work in Burma, where the campaign was already foreseen. He finally retired from active work in 1942.

We regret to announce the following deaths:

Dr. Nicholas Murray Butler, for more than forty years president of Columbia University, aged eighty-five.

Mr. S. A. Courtauld, who built and endowed the Courtauld Institute of Biochemistry, and also endowed the professorship of anatomy at the Middlesex Hospital, on December 1.

Sir John Fraser, K.C.V.O., principal of the University of Edinburgh since 1944, on December 1, aged sixty-two.

Prof. Paul Monroe, professor emeritus of education in Teachers College, Columbia University, on December 6, aged seventy-nine.

NEWS and VIEWS

Presentation of Physical Society's Awards:

Charles Chree Medal and Prize

At the science meeting of the Physical Society at the Science Museum on December 19, the Charles Chree Medal and Prize for 1947 will be presented to Sir Edward Appleton, who will then deliver an address entitled "Geomagnetism and the Ionosphere". Sir Edward has earned an international reputation for his work on the characteristics of the ionosphere, for which he was recently awarded the Nobel Prize for Physics for 1947 (see *Nature*, November 22, p. 703).

Charles Vernon Boys Prize

At the same meeting the Charles Vernon Boys Prize for 1947 of the Physical Society will be awarded to Dr. C. F. Powell, reader in physics in the University of Bristol, for his development of the photographic-plate technique for the investigation of fundamental particles. Dr. Powell, who was born in 1903, carried out his first piece of research under C. T. R. Wilson at Cambridge on supersaturation in steam. In 1928 he became research assistant to Prof. A. M. Tyndall in the H. H. Wills Laboratory at Bristol, and in 1931 was appointed lecturer in physics there. His outstanding ability as an experimenter became evident in his systematic work on positive-ion emission in pure gases. Until a few years ago the Wilson cloud-chamber method was the only one used in the study of the tracks of high-speed particles, particularly if their energies were to be estimated. It occurred to Powell (and to others working independently of him) that it should be possible to make direct use of the photographic emulsion, in which the fundamental particles would have short ranges and the lengths and directions of the tracks could be measured after development of the plate. He originally used the method in the study of the processes occurring in cosmic rays. In 1938, with the aid of a Cockcroft 700-kV. generator which he had constructed at Bristol, he showed that quantitative information on nuclear processes could be obtained by this method. Since then, with the improved fine-grain emulsions produced by Ilford, Ltd., and with other facilities, he has established this technique as one of the most powerful instruments in nuclear study. It was by this technique that investigators in Joliot-Curie's laboratory discovered triple and quadruple fission in uranium nuclei. Powell himself has obtained range-energy curves for protons and other particles, and the recent discovery of new types of meson by Powell, Occhialini and Lattes has aroused world-wide interest. The presentation of the Charles Vernon Boys Prize will be followed by a brief address by Dr. Powell on the work which forms the basis of the award.

Centenary of the Exhibition of 1851

Mr. Herbert Morrison, Lord President of the Council, announced in the House of Commons on December 5 that the centenary of the Great Exhibition of 1851 is to be marked by a comprehensive national display in addition to the annual British Industries Fair. It is proposed that the year 1951 should be marked by comprehensive and co-ordinated displays demonstrating British contributions to civilization, in the arts, in science and technology and in industrial design. The Central Office of Information, acting on behalf of the various research councils and other scientific bodies, is to be responsible for the presentation of science and technology. The Council of Industrial Design will take charge of an exhibition of consumer goods, civil transport, some handicraft production and displays showing the historical development of certain