NEWS and VIEWS

Geological Survey of Great Britain : Sir Edward Bailey, F.R.S.

SIR EDWARD BATTERSBY BAILEY, who has just retired from the directorship of the Geological Survey and Museum, joined the Scottish Branch of the Survey in 1902, at the age of twenty-one, and rapidly established an international reputation as a leading authority on the tectonics of the Scottish Highlands. He served with distinction throughout the War of 1914–18 and after the conclusion of hostilities became in 1919 district geologist in charge of the West Highland and Ayrshire work. An outstanding achievement during his tenure of this post should be mentioned, namely, the preparation of the classic memoir on the Tertiary igneous rocks of Mull (1924). In 1929 he resigned, on his appointment to the chair of geology at the University of Glasgow; but he returned to the Survey as director in 1937.

The short period from 1937 to the outbreak of the present War saw the inception of comprehensive plans for field-work to accelerate the mapping of districts urgently requiring revision. Sir Edward's directorship will, however, be remembered chiefly for the notable part he and his colleagues played in aiding the war effort, especially during the early critical years. When the events of 1940–41 made it necessary to develop the country's mineral resources to the utmost, he threw himself with characteristic energy into the task of carrying out an immediate investigation into the available supplies of such essential raw materials as iron ores, bauxite, limestone, lead, zinc, tin and copper ores, feldspar, mica and silica sands suitable for optical glass. He also extended and amplified the Survey's investigations into underground water supplies throughout Great Britain, and carried through the preparation of a large series of war-time pamphlets in which the results of Survey work were made easily and rapidly accessible. In addition, Sir Edward and his staff were able to give assistance in many engineering projects directly connected with the war effort, such as the siting of aerodromes, camps and emergency hospitals, the provision of underground storage, and the selection of localities suitable for opencast coal production. He has also collaborated closely with Government departments concerned with post-war reconstruction and industrial development. All these varied activities he has pursued with energy and success, and the results may be said to have demonstrated anew the importance of the part which geology and geological research can play not only in the economy of a country at war, but also in the no less difficult problems of the years of peace ahead. Dr. W. F. P. McLintock, deputy director, is at present in charge of the work of the Geological Survey and Museum.

Sir Howard Florey, F.R.S. : Lister Medallist

THE Lister Medal for 1945 of the Royal College of Surgeons of England, which is awarded in recognition of distinguished contributions to surgical science, has been granted to Sir Howard Florey, professor of pathology in the University of Oxford, for the outstanding importance to surgical science of his work on penicillin and its application. He will deliver the Lister Memorial Lecture later in 1945. This is the eighth occasion of the award, which is made by a committee representative of the Royal Society, the Royal College of Surgeons of England, the Royal College of Surgeons in Ireland, the University of Edinburgh and the University of Glasgow.

Treatment of Leprosy

A NEW treatment of leprosy reported from Madagascar (*Brit. Med. J.*, 338, March 10, 1945; and *Lancet*, 357, March 17, 1945) suggests that it is, in some respects, a considerable advance in the fight against this ancient and terrible scourge of mankind. Drs. Boiteau and Grimes extracted, so long ago as 1937, a new glucoside from the umbelliferous plant *Hydrocotyle asiatica*, which gave encouraging results when it was tried for the treatment of leprosy; but it was too toxic. In 1938 Bontemps, working at Antananavivo, isolated another new glucoside which he called 'asiaticoside', and this was not only active against leprosy but was also much less toxic. It was insoluble in water, slightly soluble in alcohol and very soluble in pyridine. Later Boiteau obtained a solution of it suitable for injection, and Devanne and Razafimahery have studied its chemical constitution. Boiteau and Grimes think that it acts by dissolving the waxy covering of *B. leprœ*, so that the bacillus then becomes very fragile and may easily be destroyed by the tissues or by some other drug. The results of injections of the solution prepared by Boiteau are reported as being remarkable. Leprosy nodules are broken down, diffuse infiltrations disappear, perforating ulcers and lesions on the fingers heal and, most remarkable of all, eye lesions are rapidly cured if treatment is given before the posterior chamber of the eye is involved. If fuller reports of trials on a larger number of patients substantiate these claims, and if asiaticoside can be prepared in sufficient quantity, mankind will owe a great debt of gratitude to the discoverers of this remedy. If the view that it acts by dissolving the waxy coating of the bacillus is correct, it is not inconceivable that it may show the way towards the control of infections with other bacilli which have a waxy envelope, such as the bacillus of tuberculosis.

Historic St. Andrews and its University

THE year 1754 gave promise of being an important one in the annals of Scotland, for it saw steps taken to found the Edinburgh Society for the Encouragement of Arts, Sciences, Manufactures and Agriculture. Within a decade, however, the Society had metamorphosed into a Society for Promoting the Reading and Speaking of the English in Scotland, which led to a fate justly deserved. But according to Prof. John Read, in the second edition of his pamphlet "Historic St. Andrews and its University" (W. C. Henderson and Sons, Ltd., St. Andrews, 1945), 1754 also saw a more enduring and certainly much more influential society formed by twenty-two "Noblemen and Gentlemen, being admirers of the ancient and healthful exercise of the Golf", namely, the Royal and Ancient Golf Club—legislative authority of the game. By that time, however, the University of St. Andrews, junior only to Oxford and Cambridge in Great Britain, was more than three centuries old, with a tradition and setting that make St. Andrews "at once the Canterbury and the Oxford (or Cambridge) of Scotland".

It is not surprising, then, that we learn from Prof. Read that the tomb of the founder of St. Salvator's College, erected in 1458, is "probably the finest specimen of mediæval work in Britain" and that the silver gilt College and Faculty maces are "older than

even the oldest of the English maces", and that the Natural Philosophy (*anglicé* Physics) Department houses the finest extant Elizabethan scientific instrument, Humphrey Cole's great astrolabe (1575). At their best, Scottish professors of chemistry have been men of erudition, and Prof. Read, present director of the Chemical Research Laboratories at St. Andrews, maintains that valuable, if passing, tradition. Not a few who have never heard of terpenes may be inspired by his pamphlet, if they are fortunate enough to see it, to make a post-war pilgrimage to the "little city, worn and grey".

Relation of Meteors to Short-Wave Radio 'Whistles'

A NOVEL explanation of some peculiar whistles audible under certain conditions in short-wave radio receivers is put forward by S. R. Khastgir (*Indian J. Phys.*, 17, 239; 1943). Weak short-lived whistles of rapidly descending pitch have been noticed at the Delhi receiving station of All-India Radio when a receiver is tuned to the carrier wave of the nearby short-wave transmitters. Two possible explanations are offered, in both of which the phenomenon is attributed to the entrance of a meteor into the earth's upper atmosphere. In the first, the meteor is supposed to produce a rapidly moving mass of ionized air at its head. This local Heaviside layer scatters the incident radiation from the transmitter, the rapid descent causing a Doppler change in the frequency of the scattered waves. These then interfere with the ground waves reaching the receiver, and an audible beat note is produced. As the descent is retarded by atmospheric resistance the Doppler shift lessens, and the pitch of the whistle drops. On a carrier wave of 7 Mc./s. a whistle starting at 3,000 c./s. would be caused by a meteor with a maximum velocity component of 64 km./s. towards the receiver—not an unreasonable value.

The second hypothesis supposes that the retardation of the meteor in the ionosphere produces, in some way, an electrical impulse similar to audio-frequency static. The Fourier components of this impulse, transmitted at different velocities through the ionosphere, will reach its lower fringe in succession (the shorter waves first) and will modulate the scattered carrier waves at a frequency which is a function of time. A receiver tuned to the carrier will thus reproduce a whistle descending in pitch at a rate which should depend on the ionization. Test experiments will no doubt distinguish between these hypotheses, but there seems no doubt about the observed facts—that the whistles frequently coincide with observed meteors, and that they occur most often in the early morning, when the number of meteors is a maximum. They are thus likely to be of fundamentally meteoric origin whatever may be the details of their production.

Polish Science and Learning

THE fourth number of *Polish Science and Learning*, the series of booklets edited by the Association of Polish University Professors and Lecturers in Great Britain, is a specially educational issue. Several preliminary articles are contributed by American and British writers. Dr. Maxwell Garnett's theme is English education in relation to international problems. The makers of the Paris Peace, a quarter of a century ago, he says, took no account of education and little of economics, but relied on political pacts, unsupported by the thoughts and feelings of average citizens. All will agree that we must do better this time, though all may not agree with the details of Dr. Garnett's way of doing it. Prof. Powicke's article, though written for a different occasion, is wisely included, because of its explanation of Oxford's peculiar contribution to English life, the claims of mere learning being subordinated to the service which learning can render to English society. We may be amateurs, but we are not pedants.

The main body of the booklet, contributed by Polish authorities, makes sad reading, because every aspect of education is necessarily treated from the pre-war and the post-war points of view. In other words, the writers describe what has been ruthlessly and completely destroyed, and proceed to describe the immense task of reconstruction which faces the Poland of the future. No aspect of education seems to have been omitted by the editorial committee. Among the subjects of the articles are elementary schools, secondary education, the training of teachers, technical schools, university education, scientific and technical research, books and libraries, adult education, art education and physical education. The concluding "Chronicle" is a useful addition to a very comprehensive report on the educational situation of Poland.

Blind Workers in Industry

CERTAIN occupations such as basket-making, massage and telephone-exchange operations have been assumed to be almost the only possibilities for the blind, and the normal factory environment has been dismissed as unsuitable. Since the need for labour during the War, many firms have experimented with a few blind workers, and a study of 215 blind workers employed in different firms has been made by Dr. K. G. Fenelon, of the University of Manchester. The industries included, among others, general electrical engineering, aircraft, metal ware, wood-working. 104 of the workers were trained by the firms themselves on the factory premises, 53 by the Institute for the Blind, 2 by an education committee, 8 in their own homes, while 48 had no specific training but obtained their experience on the job. The firms who have experimented with blind workers report that, while some fall short of the production obtained by the fully sighted workers, yet some are quite up to normal standards and also that they are no more liable to accidents than other workers. Some jobs involve the provision of special aids, but others can be undertaken by them with the ordinary machinery. They are particularly successful in work where delicacy of touch compensates for ability to see. It is therefore important that the jobs selected for them should be suited to their particular abilities. Their concentration on the job in hand is good, and they are in general keen and industrious. One difficulty is that they are apt to get irritated by any hold-up of material. It seems clear even from this limited survey that there is a case for a comprehensive research into the possibilities for the blind. Quite apart from their potential value as workers, it will be an advantage to them to form part of an ordinary community.

Rickettsiasis in Brazil

THE January issue of the *Boletín de la Oficina Sanitaria Pan-Americana* contains an interesting review of this subject by Dr. Otávio Magalhães, member of the Pan-american Typhus Committee.