

investigation by the owner, and has proved rich in finds. Of these, one of the most interesting, according to a preliminary account which appeared in *The Times* of January 24, is a structure, which proved to be the abutment of a bridge carrying a track over a ditch. On the east side of the track were two cremation burials and on the west side forty-two cremation burials and two inhumations, one of a child and one of an adult. No sort of order or alignment seems to have been observed. None of the pottery is certainly later than A.D. 160, but it is interesting as showing the development in design from Belgic to Roman. Of the forty-four cremation burials twenty-one consisted of the urn only; but the remaining twenty-three included smaller vessels, beakers, jugs, dishes of Samian ware, and a small glass tear bottle. A report by Dr. Davey will be presented to the Society shortly.

Empire Exhibition at Johannesburg

THE rapid development of South Africa was outlined by Lord Riverdale of Sheffield, speaking on January 23, under the auspices of the British Empire League, at the British Empire Club. His main subject was the Empire Exhibition which is to be opened in Johannesburg on September 15. Last year marked the twenty-fifth anniversary of the Union of South Africa; between 1910 and 1935 the European population increased by more than fifty per cent and the native population by more than forty per cent. These important years have seen a tremendous increase in agricultural products and mineral development. Conspicuous progress has been made in the fruit industry, the value of exports of fresh fruit having risen from an average of £15,000 a year in pre-War years to £2,270,000 in 1934. In recent years rapid industrial development has also taken place. As an export market for United Kingdom goods, South Africa ranks second only to British India, and in 1934 took goods to the value of some £32,000,000. The imports into the Union for the first six months of 1935 showed an increase of £5,600,000, and of this total the United Kingdom supplied forty-nine per cent. This will be the first Empire Exhibition which has been held outside Great Britain and is receiving the full support of the Union of South Africa Government and the Government of Great Britain. After enumerating many of the features of the forthcoming exhibition, Lord Riverdale said that, from a business point of view, he could thoroughly recommend it as being an opportunity of showing what British manufacturers can do for the South African market with a view to the expansion of our trade. In metals and manufactures, including machinery and vehicles, South Africa imported more than £24,000,000 in 1934, and Great Britain supplied only £12,000,000 in this item alone. If the market was studied and our goods shown in the right way, there lies a large field for further expansion. The same might be said for the item of fibres, yarns, textiles and apparel. In 1934 the Union's total imports for these were 15½ millions, of which the United Kingdom's share was less than £10,000,000.

The National Institute of Sciences of India

WE welcomed recently (*NATURE*, 135, 59, 410 (1935)) the formation in India of the National Institute of Sciences, a major function of which will be the co-ordination of the activities of the three co-operating academies in Calcutta, Allahabad and Bangalore. We have now received the first two volumes of the *Proceedings* of the new Institute. The first volume contains a full account of the inaugural meeting together with a list of the foundation fellows. We have referred already to the scholarly address by the president, Sir Lewis Leigh Fermor, and a perusal of the list of foundation fellows shows that the Institute has received the enthusiastic support of all men of science working in India. In the past, India has suffered in that it has had no body of organised scientific opinion capable of representing it at international conferences. It is not the least notable of the functions performed by the Indian Science Congress that it has been responsible for the foundation of the Indian Institute of Sciences, which will supply this want.

THE second volume of the *Proceedings* prints a number of scientific communications read before the Institute. They cover a wide field of research since they comprise papers on botanical, anthropological, physical and chemical subjects. We had not anticipated from the president's inaugural address that the Institute would, in other than exceptional circumstances, act as a publishing body; but that it was to be concerned rather with the publication of summaries of papers read before the co-operating academies. We regard it as somewhat unfortunate that there should be an increase in the large number of journals already published in India. Of greater interest than the specialist papers is the account of the symposium on "Problems of the Ionosphere". The holding of these general discussions on varied subjects of scientific importance will, we think, prove to be one of the most notable activities of the National Institute, and if they maintain the high standard of the first symposium, original work in India will receive a marked stimulus.

Recent Acquisitions at the Natural History Museum

AMONG recent additions to the zoological collections are specimens of Ungulate mammals from the Sudan presented by Major P. H. G. Powell-Cotton and Miss Diana Powell-Cotton. A fine specimen of adult beaver from Norway has been purchased, and an interesting series of Crustacea from the Bering Sea and the Sea of Okhotsk, regions previously very poorly represented in the Museum collection, have been received by exchange. A specimen of a rare mollusc, *Halicardia flexuosa*, from the Atlantic Ocean off Cape Point, South Africa, has been presented by the director of the South African Museum, Cape Town. The Department of Geology has recently acquired, through the generosity of the Committee of the Torquay Natural History Society, more than 160 Devonian invertebrates from Devon, all of which are type or figured specimens; and has received from

Mr. M. H. Donald a large collection of fossil invertebrates, formed by the late Mrs. J. Longstaff, chiefly from the Carboniferous of Great Britain, and including more than 20 figured specimens. The Mineral Department has received by gift from Prof. E. D. Mountain a specimen of bokspatite, a species new to the collection; from Dr. E. S. Simpson distorted crystals of cassiterite from Pilbara goldfield; and from Mr. R. Murray-Hughes a series of rocks collected by him on the Aberdare Range, Kenya Colony, in 1933. A piece, weighing 99 gm., of the meteoric stone which fell on May 26, 1932, at Kuznetzovo, Tatarsk district, Siberia, has been acquired by exchange.

AMONG recent acquisitions of the Department of Botany is a complete collection of the observed phanerogamic flora of Etah (Inglefield Land, north-west Greenland) made by Dr. G. N. Humphreys on the Oxford University Ellesmere Land Expedition. A few gatherings from the Disco area of west Greenland are included, but none from Ellesmere Land, as the Expedition left there before the collecting season. The material, of about three hundred numbers, is well collected and dried, and is a valuable addition to those already in the Museum from these high altitudes in Greenland. Another addition comprises 122 sheets of Finnish plants collected by Mr. H. Krogerus, who accompanied Mr. G. J. Kerrich on his recent expedition. The plants are all critical species, and correspond to a list supplied by the Department. They were named in Finland, and thus have an additional value. Collections from Mozambique, Angola and Tanganyika have also been received. Miss G. Lister has presented the simple microscope and stand of her grandfather (Joseph Jackson Lister) to the Department. This he used "when he was in the full swing of work". It was constructed before or about 1820. J. J. Lister (1786-1869) was "the discoverer of the principle upon which the modern microscope is constructed" ("Dictionary of National Biography").

New Meteorological Observatory at Brisbane

THE formal opening of Crohamhurst Observatory, situated in lat. $26^{\circ} 50' S.$, long. $152^{\circ} 55' E.$, by H. E. the Governor of Queensland took place on August 13, 1935. The observatory will be concerned with meteorological and solar work, and will in particular attempt seasonal forecasting on the basis of the sunspot cycle. The City of Brisbane is visited by disastrous floods about every twenty years, and the rainfall which is received in the valley in which the new Observatory is situated is the sole cause of these floods; in fact, the record rainfall of Australia, 35.7 inches in 24 hours, was recorded at Crohamhurst in 1893. The director of the new observatory is Mr. Inigo Jones, who has been engaged on meteorological work in this part of Australia for forty years, and claims an accuracy of more than eighty per cent in forecasting weather conditions. His views on the relation of weather to the sunspot cycle and to the movements of the planets have been referred to from time to

time in our columns (see NATURE, July 2, 1932, p. 31, and Sept. 2, 1933, p. 345). Brisbane is to be congratulated on the possession of its new observatory.

Geological Survey and Museum

FROM the opening of the Geological Museum at South Kensington on July 3 until December 31, 159,000 visitors passed through its doors. This compares with an average total of 18,000-20,000 a year at the old museum in Jermyn Street. Recent additions and presentations to the Museum include a fine collection of cut zircons, one royal blue stone of 44 carats, being unique in size and colour; a collection of multi-coloured doubly-terminated tourmaline crystals from Mesa Grande, California; a large composite photograph of the moon from the Mount Wilson Observatory, and other series of enlarged photographs of earthquakes and other geological phenomena; more than two thousand British building stones and other collections illustrating economic geology, bequeathed by Mr. B. E. Laine-Pearson; and some 250 rocks recently collected for the Museum from southern Norway.

Sunspots during 1935

A PROVISIONAL value of the mean daily area of sunspots for 1935 is 550 millionths of the sun's hemisphere. This may be compared with 119 millionths for the year 1934 and 88 millionths for 1933, the date of the last minimum of the 11-year cycle being 1933.8. During 1935, solar activity—as shown by the occurrence of sunspots, disk markings in hydrogen and calcium light, and prominences at the limb—increased to a marked degree, especially during the latter half of the year. The maximum of the cycle, which normally occurs about four years after the preceding minimum, may be expected in 1937-38, but the epochs of the cycle are not amenable, as is well known, to exact prediction.

Recent Large Sunspots

SINCE the beginning of last December, when a very large group of sunspots crossed the sun's disk, there have been other groups of lesser magnitude but nevertheless of considerable extent, especially the group most recently visible. These groups are summarised as follows, the area being expressed in millionths of the sun's hemisphere. It may be noted that a single spot of area 500 units, when near the centre of the disk so as to escape foreshortening, is usually visible to the naked eye. Times are in U.T.

Date on Disk	Central Meridian Passage	Latitude	Maximum Area
Dec. 6-19	Dec. 12.5	$23^{\circ} S.$	900
Dec. 28-Jan. 9	Jan. 3.4	$12^{\circ} S.$	900
Jan. 1-14	Jan. 7.8	$27^{\circ} N.$	1100
Jan. 14-26	Jan. 19.9	$32^{\circ} S.$	1800

No magnetic storms were recorded at Greenwich (Abinger Station) on or about the time of central meridian passage of any of the above spots, but from Jan. 8^h. 4^d. for three or four days the traces appear distinctly unsteady. On Jan. 24^d. 17^h., however, another disturbance commenced; but this