

University and Educational Intelligence.

BIRMINGHAM.—The Huxley Lecture is to be delivered on Mar. 6 by Sir William B. Hardy, Director of Food Investigation, Department of Scientific and Industrial Research, who has chosen as his subject "The Physical Basis of Life".

OXFORD.—For some time past questions of library accommodation and administration have been keenly discussed in Oxford. Some of the difficulties of the situation have been met by placing certain of the special book-collections, for example, the Radcliffe Scientific Library, under the jurisdiction of the Bodleian. But it is felt that a complete reorganisation of the whole library system, including structural enlargement, arrangements for accessibility, facilities for readers and workers, the acquisition and proper housing of books, is urgently required. For this reason the generous offer of the Rockefeller Foundation to defray the expenses of a commission to visit modern university libraries and to report on their organisation, planning, equipment, and administration, is especially to be welcomed. The commission, after finishing its inquiry, will be in a position to advise the University as to the best methods of bringing its library provision into agreement with modern requirements.

The annual report of the Visitors of the University Observatory has just been published. It contains a record of much work on the zones of the Astrophysical catalogue and on seismological results up to 1926, including Prof. H. H. Turner's analysis of the earthquakes in the Philippines. A list is given of important papers by Prof. Turner and members of his staff that have appeared since the last report.

THE Borough Polytechnic, in Borough Road, London, was honoured on Feb. 20 by a visit from the Duke of York, on the occasion of the opening of its new buildings; this being the culmination of a series of similar functions which began with the opening last October by the Queen of the extension of the Regent Street Polytechnic. The Borough Polytechnic, the oldest and still the largest of the group of institutions founded under the scheme drawn up forty years ago by the South London Polytechnic Council, was opened by Lord Rosebery in September 1892. During the last seven years the volume of its work has increased by fifty per cent, and additional accommodation, for which the London County Council gave grants amounting to £80,000, had become urgently necessary. Even now, pressure on the available accommodation is excessive. The class entries total nearly 10,000, as follows: day schools, 568; day classes, etc., 287; evening departments of mechanical engineering and building, 1918; electrical engineering, 2068; chemistry, 667; chemistry of oils, colours, and varnishes, 401; mathematics, 893; tailoring, 126; bakery and confectionery, 308; art classes, 469; women's trade classes, 303; women's domestic economy classes, 664; language classes, 295; music and elocution, 374; gymnasium, 495. To the question "What can science do for industry?" many and various answers have in the course of the past few weeks been broadcast. The Duke of York dwelt, in his address, on a branch of science the votaries of which can indeed, albeit indirectly, through wise direction of consumption and beneficial influence on the moral and physical welfare of the personnel of industry, give more potent help than any other—domestic science with its correlative crafts. He commended the care taken by the Polytechnic in instructing girls and young women in the sciences and arts that make for the building up of good and comfortable homes.

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Historic Natural Events.

Mar. 3-4, 1886. Hurricane in Fiji.—This very severe hurricane caused the loss of many lives and the destruction of much valuable property, and was the worst experienced for many years. It travelled from north-east, across the centre of the group, recurving over the Koro Sea and passing away to the south-east, at an average speed of nearly 15 miles per hour. It had a calm centre with a diameter of 25 or 26 miles, in which the barometer fell to about 935 mb. (27·6 inches). Near the vortex the barometric gradient was 33 mb. (nearly one inch) in 50 miles. The town of Vuna in Taviumi was completely wrecked; nearly all the houses were blown down, and then were swept away by a hurricane wave or buried in the sand and shingle. From the coast to the tops of the hills nothing remained but bare sticks and the blackened, torn, and twisted relics of the foliage. Most of the small islands suffered from the storm wave, which came in like a wall, and penetrated inland as much as 700 yards. In some places debris was left in the trees 30 feet above high-water mark. At Vanuaso a shark was killed among the houses.

Mar. 5-7, 1595. Great Floods.—The winter of 1594-95 was very severe; all the rivers of western and central Europe were frozen hard, including the Po and the lagoons of Venice. There was a great accumulation of snow, which began to melt rapidly at the end of February during a period of thaw; this and the break-up of the ice caused great ice floods in the valleys of the Rhine, Moselle, and Elbe, which broke down the strongest stone bridges. The Thames was frozen, but there is no record of flooding in London.

Mar. 6, 1716. Remarkable Aurora.—A detailed account of this wonderful aurora was drawn up by Halley at the request of the Royal Society, and is published in *Phil. Trans.*, 1716, p. 406, under the title, "An Account of the late surprising Appearance of the Lights seen in the Air, on the sixth of March last; with an Attempt to explain the Principal Phenomena". This aurora was seen from almost the whole of northern Europe and so far south as the north-west coast of Spain. In England the display commenced at 7 P.M. and lasted until 3 A.M. on the following morning when the moon rose. The most spectacular phase was from 7 P.M. until about 9 P.M., including the short-lived appearance near the zenith of a 'corona' tinged yellow, red, and a dusky green. Throughout, the display was remarkable for the variety and rapidity of its changes as well as for its brilliance. Halley remarks: "Nor is the like recorded in the English Annals since the year of our Lord 1574": also "... it seems, in little more than eighteen months, this sort of light has been seen in the sky, no less than five times; in the years 1707 and 1708". *Phil. Trans.*, 1716, p. 430, gives an account of the recurrence of the aurora on Mar. 31, April 1 and 2, 1716, *i.e.* about one solar rotation later. Wolf found that during the period 1716-19 sunspots were unusually numerous, though no large spot appears to have been observed about the time of this aurora.

Mar. 7, 1925. Abnormal Rains in Peru.—The coastal regions of Peru are in general almost rainless; for example, at Trujillo in the seven years 1918-24 inclusive, the total rainfall was only 1·4 inches. On Mar. 7-9, 1925, however, no less than 8·9 inches fell, and by the end of the month the total had risen to 15½ inches. Similar abnormal rains occurred all along the coast, beginning in January but reaching their maximum in March. Great floods resulted, doing serious damage to buildings, machinery, roads, and crops. The normal absence of rain is associated with the presence off the coast of the cold Humboldt

current, but at rare intervals a warm current, known as El Niño (The Child), because it usually appears about Christmas, flows down the Peruvian coast. Early in 1925 this warm current was abnormally developed, temperature rose 10° or 20° higher than usual, and violent thunderstorms occurred.

Mar. 7, 1927. Earthquake in Tango District (Japan).—A strong earthquake occurred in the Tango peninsula on the north side of the main island of Japan. The number of lives lost was 3017, while several small towns were ruined. Crust-displacements took place along two old faults nearly at right angles to one another. On the Go-mura fault, the ground shifted, along 11 miles, by so much as 9 ft. 2 in. horizontally and 2 ft. 7 in. vertically. Repeated surveys in the central tract showed that movements continued for a year or more, and that the crust was divided into a number of blocks that moved easily and not always in the same directions.

Mar. 8, 1920. Haloes in America.—A very fine display of solar haloes began at 11.30 A.M. at Ellendale, South Dakota, and other parts of the central United States. In addition to the haloes of 22° and 46°, there were visible circumscribed arcs, parhelia, anthelion of 180°, and other phenomena, some of which exhibited brilliant prismatic colours. The phenomena awakened great interest in the subject in America.

Mar. 8 (or 10), 1543. Mississippi Flood.—The history of De Soto's expedition on the North American continent states: "Then God, our Lord, hindered the work with a mighty flood of the great river, which at that time began to come down with an enormous increase of water, which in the beginning overflowed the wide level ground between the river and the cliffs; then little by little it rose to the top of the cliffs. Soon it began to flow over the fields in an immense flood, and as the land was level without any hills, there was nothing to stop the inundation. . . . On Mar. 18, 1543, . . . when the Spaniards were marching in procession, the river entered with ferocity through the gates of the town of Aminoya (a short distance below the mouth of the Arkansas River), and two days later they were unable to go through the streets except in canoes. . . . The flood was 40 days in reaching its greatest height, which was April 20, and it was a beautiful thing to look upon the sea where there had been fields, for on each side of the river the water extended over twenty leagues of land, and all of this area was navigated by canoes, and nothing was seen but the tops of the tallest trees."

Societies and Academies.

LONDON.

Royal Society, Feb. 20.—A. C. Davies, F. Horton, and E. Blundell: Critical potentials for the excitation of soft X-rays from iron. Critical potentials for excitation of soft X-rays from solids, and for production of secondary electrons from solids, under electronic bombardment, do not conform with the view that characteristic displacements take place of electrons forming the outermost extranuclear groups in the bombarded atoms. The experiments deal with critical potentials for soft X-ray excitation from iron, rolled into thin strip from a drawn wire, for different temperatures and also for the same specimen at room temperatures, after being subjected to various heat treatments. Many critical potentials were produced, mostly persisting throughout the subsequent conditions of the target, once they had made their appearance; only one—at 201 volts—justifies the

conclusion that its presence was dependent upon the iron strip being at a high temperature.—L. M. T. Gray and D. W. G. Style: The absorption of light by chlorine, bromine, and their gaseous mixtures. The independence of the absorption of chlorine of the intensity or nature of the incident radiation was tested by various methods. Extinction coefficients of bromine vapour have been determined at room temperature for certain mercury arc lines. The absorptions of mixtures of chlorine and bromine confirmed the existence of BrCl.

Linnean Society, Jan. 23.—H. W. Renkema and John Ardagh: Aymer Bourke Lambert and his 'Description of the Genus *Pinus*'. Lambert was the son of a country gentleman, of Boyton, Wiltshire. Among his friends at Oxford, where he matriculated in 1779, were Joseph Banks and the principal founder, in 1788, of the Linnean Society, James Edward Smith. Lambert was an original fellow of the Society and for fifty years was vice-president. His chief contributions to botanical science were the accumulation of a large library and herbarium, and the spacious monograph of the genus *Pinus*. A detailed description was given of the contents of all the copies of the volumes of the various editions to which the authors, in Holland and London respectively, have had access or on which they have been able to obtain reliable information.—G. Tandy: Sundry observations on *Caulerpa*. On the low wooded islands and inner reefs of the Australian Great Barrier system, two species are of importance as sand- and shingle-binders, and it is probable that nowhere else in the world are conditions so favourable for this habit. They are in the broad sense (for they are polymorphic) *C. racemosa* (Forsk.) J. C. Agardh and *C. cupressoides* (Vahl) C. A. Agardh. The latter is common on Batt Reef, which belongs to an inner series and is not a linear or true barrier reef. The former is very common on Low Isles and is a member of the turf of the mangrove park.

Physical Society, Jan. 24.—J. M. Nuttall and E. J. Williams: A method of examining stereoscopic photographs. The photographic plates are replaced in the cameras and illuminated, and a system of movable pin points is used to trace out the contour of the image (see NATURE, May 25, 1929, p. 799). The chief advantage of the method is its simplicity—practically no computation is required and it is not necessary to know the stereoscopic angle, the magnification, etc.—Miss A. W. Leyshon: Characteristics of discharge tubes under 'flashing' conditions, as determined by the use of a cathode ray oscillograph. Current-voltage characteristics are determined. Current-time and voltage-time curves are derived from the oscillograph records. The method might prove useful in investigations on intermittent discharges in various gases under different conditions of pressure and disposition of the electrodes.

Royal Meteorological Society, Feb. 19.—G. C. Simpson: The distribution of terrestrial radiation. (a) The geographical distribution of incoming and outgoing radiation during January and July has been determined and was exhibited on maps. (b) The incoming and outgoing radiations for each 10° zone of latitude have been calculated for each month of the year. (c) The result indicates great uniformity in the intensity of the outgoing terrestrial radiation, both in time and space, and that, except for small uncertain irregularities, the total outgoing radiation from the earth as a whole just balances the incoming solar radiation at all periods of the year.—C. K. M. Douglas: The cyclonic depressions of Nov. 16 and 23, 1928. Autographic records are reproduced showing the conditions close to the