of the Forestry Commission, extending to 36,000 acres, will be available of access for educational purposes.

LEEDS.—The University Council has recorded "its profound regret in the loss sustained by the death of Arthur Greenhow Lupton, the first Pro-Chancellor of the University. His long and continuous association with the Yorkshire College and University—a connexion unbroken for 55 years—lent to his counsel a supreme value, and to his advice the wisdom born of experience. He had followed and accompanied every step in the growth of the Yorkshire College, and its gradual development to University status. He presided over the board of Governors of the College from 1889 till 1904, and over the University Council from 1904 till 1920. . . . The University acknowledges with pride that the distinguished place and high standing which it now occupies in the public opinion of Yorkshire and the country are in large measure due to the character and ideals of its first Pro-Chancellor. . . ."

LONDON.—Dr. H. A. Harris has been awarded the William Julius Mickle Fellowship for 1930 in respect of research work (radiographic and histological) during the past five years in connexion with problems of growth in man and animals.

Dr. Francis Davies has been appointed, as from Aug. 1, to the University readership in anatomy tenable at King's College. Dr. Davies was educated at University College, Cardiff, and continued his medical studies at University College Hospital, London. From 1924 until 1927 he was demonstrator, and since 1927 he has been senior demonstrator in anatomy at University College.

Prof. L. T. Hogben has been appointed as from Aug. 1 to the University chair of social biology tenable at the London School of Economics. In 1912, Prof. Hogben entered Trinity College, Cambridge, with a major entrance scholarship, and in 1915 he obtained the Frank Smart Prize in zoology. From 1919 until 1920 he was lecturer in zoology at Birkbeck College, and from 1920 until 1922 lecturer in the Department of Zoology and Huxleyan Curator at the Imperial College of Science. In 1922 he was Mackinnon Student of the Royal Society. He was at the University of Edinburgh from 1923 until 1925 as lecturer in experimental physiology, and at McGill University from 1925 until 1927 as assistant professor of zoology. Since 1927 he has been professor of zoology in the University of Cape Town.

SOME attractive cinematograph displays of Empire films are being given at the Imperial Institute. During the present month, films dealing with various aspects of life in Africa, the West Indies, the Antarctic, Australia, and India, and a natural history film are being shown for successive periods. There are four sessions daily, except on Sundays, when there are two sessions. Admission is free but seats are reserved on application in writing to the secretary of the Institute.

THE Foreign Work Committee of Leplay House is arranging to send a group of members and others to North Africa during the coming Easter vacation, under the leadership of Mr. E. M. Keith Ellerton, of the University of Liverpool. The route covered is Algiers to Biskra and Touggourt, then to Tunis via Timgad and Constantine. Another group will go to Brittany, making Carnac its centre, for archæological studies, and another to Holland. Those interested in field studies from the point of view of architecture, history, geography, and sociology should apply to Miss Margaret Tatton, Director, Foreign Work Committee, Leplay House, 65 Belgrave Road, S.W.1.

Historic Natural Events.

Mar. 11, 1669. Eruption of Etna.—One of the greatest eruptions of Etna, preceded by violent earthquakes for three days, began by the opening of a fissure nearly 12 miles long on the south side of the mountain. A new crater opened 8 miles west of Acireale, the ashes from which formed the double cone now known as the Monti Rossi. The lava stream from the crater covered an area of about 40 sq. miles. It destroyed 14 villages, including Belpasso and Mascalucia, invaded Catania, mounting over the wall 60 ft. high, and finally reached the sea in a stream 600 yards wide and 40 feet deep.

Mar. 11, 1912. Darkness and Black Rain.—In the afternoon of Mar. 11 a severe thunderstorm took place in the east of Hampshire and the west of Sussex. A peculiar feature was the intense darkness that occurred near the centre of the storm. The sky was described as of inky blackness; in other places the cloud was greenish yellow and dense fog was experienced. The rain which fell from this cloud was black like ink, and smelt slightly of tar. There seems little doubt that the blackness was actually due to London fog which drifted southwards before a light wind until it reached the thunderstorm area.

Mar. 11-14, 1888. 'The Great March Blizzard'.—This was the worst storm in the history of the eastern United States. An elliptical trough of low pressure moved eastward, with two intense centres; the northern centre passed out over the Atlantic on Mar. 11, while the southern centre turned north-eastward and remained in the neighbourhood of Cape Cod from Mar. 12 to 14, gradually becoming less intense. On the western side of these two depressions intensely cold northerly winds blew with great force, the temperature being little above 0° F. in the interior of Connecticut and New York, and the wind up to 70 miles per hour. West of 72° W. the snowfall was excessive, and piled up in immense drifts. The average depth of undrifted snow exceeded four feet in parts of New York State, and caused almost complete cessation for several days of railway traffic entering New York City.

Mar. 13, 1252. Drought and Disease.—This great drought was associated with persistent north, north-east, or east winds. "On the 13th day of March there began a sore drought, continuing a long time. . . . The grass was so burned up in pastures and meadows that if a man took some of it in his hands it straight fell to powder, and so cattle were starved for lack of meat. And because of the exceeding hot nights there was such abundance of fleas, flies, and gnats that people were vexed and brought in case to be weary of their lives. And herewith chanced many diseases, as sweats, agues, and other. In the harvest time fell there a great death and murrain amongst cattle, and especially in Norfolk, in the Fens, and other parts of the south. This infection was such that dogs and ravens feeding on the dead carrion, swelled straightway and died, so that the people durst eat no beef lest the flesh haply might be infected."

Mar. 13, 1523. Storm and Flood.—A severe thunderstorm accompanied by violent winds broke over Holland; hailstones the size of hen's eggs fell. A dam burst at Schalkwyk, causing great floods on the Leck from Schalkwyk to Leyden. There were many thunderstorms throughout the following summer.

Mar. 13, 1924. Sun Pillar.—A fine sun pillar was widely observed over southern and eastern England, including London, and also in Ireland. At Turnham Green it was first seen at 5.45 P.M., when it formed

a whitish vertical streak equal in width to the sun and reaching up to 5° above it. The sun's disc was strangely distorted before it disappeared at 5.49, and the pillar remained visible until 6.9. At Golders Green at 5.30 it came out of the sun's disc like a tree trunk, red-orange in colour, turning to gold and then becoming whiter. Other observers described it as blood-red, apricot, or rose pink streaked with primrose yellow, but all agreed on its extreme beauty. Some experienced observers estimated the height as 30°, though sun pillars exceeding 15° are exceedingly rare.

Mar. 15, 1889. Hurricane at Samoa.—On Mar. 15 the harbour of Apia, Samoa, was crowded by seven warships, one British, three American and three German, all of which had been sent there because of the strained political situation, as well as two merchant ships and two schooners. On the afternoon of that day the island was struck by a violent hurricane from north-north-east (the harbour opens to the north), and all the vessels were either sunk or driven ashore with the exception of H.M.S. *Calliope*, which was able to steam out of the harbour.

Mar. 15, 1929. Floods in Alabama.—As a result of heavy rain at the end of February and early in March, the valleys of the Choctawhatchee and Escambra Rivers in Alabama were already saturated with water, when on Mar. 13–15 further heavy rains fell over the district, reaching 29·6 inches in three days at Elba, of which 20 inches fell on Mar. 15. (This amount is partly estimated, as the rain-gauge was carried away by the floods after 14 inches had been recorded.) The towns of Elba and Brewton, at the junctions of rivers, were flooded to a depth of more than 10 feet in places, and great damage was done, estimated at nearly five million dollars. Owing to the flood warnings, no lives were lost.

Societies and Academies.

CAMBRIDGE.

Philosophical Society, Jan. 27.—A. F. H. Ward: A microcalorimeter. A microcalorimeter was described accurate to 0·0005 cal. The system liberating the heat fits closely inside a copper tube contained in a Dewar flask. A series of iron-constantan thermocouples has one set of junctions making good thermal contact with the tube and the others in a brass ring outside, kept in a thermostat. They are connected to a sensitive moving-coil galvanometer. The Tian multiple walled thermostat is used—three concentric thick copper cylinders, insulated with kapok, the inner containing water. The temperature of the outer cylinder is controlled with a mercury regulator, and the insulating layers cut down temperature variations so that the inner vessel is constant to less than 1/500,000 C°.

PARIS.

Academy of Sciences, Jan. 27.—The president announced the death of General Sebert.—**L. Cayeux:** The existence of two groups of Algæ with the structure preserved in the 'schisto-limestone system' of the French Congo. There is ground for supposing that, in the oolitic complex of the limestone schists of the French Congo, certain limestones of oolitic appearance are petrified Algæ.—**Charles Nicolle, Paul Durand, and Ernest Conseil:** Preventive vaccination against plague pneumonia by the respiratory tract. In addition to the usual injection of dead plague bacilli, a method of inhaling a suspension of the serum as a spray was tried. 866 cases were treated, and less than 1 per cent died of the plague.—**Serge Bernstein:** A class of polynomials of minimum deviation.—**Louis Roy:** The fundamental equation of shock waves on elastic surfaces.—**G. Friedel and R. Weil:** The influence of the symmetry of the medium on the symmetry of the crystalline forms.—**Auguste Lumière and Mlle. Anna Malespine:** The impeding influence of gestation on the Arthus phenomenon.—**Alexandre Ostrowski:** Some generalisations of the Euler product $\prod_{\nu=0}^{\infty}(1 + x^{2\nu})$. **S. Stoilov:** The topological character of a theorem on the meromorph functions.—**W. Břečka and J. Gueronimus:** An inequality for monotone polynomials.—**Henri Eyraud:** The summation of divergent integrals in the theory of spectra.—**M. A. Andronow and A. Witt:** The mathematical theory of auto-oscillations.—**F. Campus:** The mean fibre of large hyperstatic arches.—**Maurice Lambrey:** The influence of foreign gases on the absorption spectrum of nitric oxide.—**Félix Ehrenhaft:** Magnetophotophoresis and electrophotophoresis. A description of the phenomena observed when submicroscopic particles are examined under the microscope in a powerful magnetic field and in an electric field.—**J. J. Trillat:** The structure of gelatine. The results of an X-ray study of films of gelatine.—**Jean Dalsace, M. Gory, and Nemours-Auguste:** An attempt on the radiographic visibility of the kidney. Intra-arterial injection of lipiodol, which is not toxic to the animal, brings out anatomical details in radiographs, especially in the kidney and suprarenal capsules.—**J. Décombe:** The passage from the β-ketonic esters to the β-amino esters. The reduction of the azines or oximes of the β-ketonic esters by the usual reducing agents does not give the amino esters, as might have been expected: the reduction of the acetylhydrazones or benzoylhydrazones of these esters, however, gives the amino esters with fair yields.—**L. Haskelberg:** Researches on the preparation of the glycerol esters of the amino acids.—**Augustin Boutaric and Mlle. Madeleine Roy:** Researches on the sedimentation of suspensions of clay. The results described are in general agreement with those obtained by Dubrisay.—**H. Besaire and Mlle. E. Basse:** New stratigraphical and palæontological observations on the upper Cretaceous of the province of Maintirano (west of Madagascar).—**Ch. Brioux and Edg. Jouis:** The correlation between the fineness and the solubility in carbonic acid of powdered limestones, and their neutralising action on acid soils. The availability for agricultural purposes of powdered limestone is shown to depend on its state of division. The neutralising action in the soil is in direct relation with the rate of solution in solutions of carbon dioxide. A commercial method of valuation based on these facts is suggested.—**P. Chevey:** Various rhythms other than thermal rhythms capable of marking the scales of fishes of the intertropical zone.—**E. Kohn-Abrest, Mlle. Hélène Villard, and L. Capus:** The presence of thiocyanates in the human organism. The post-mortem transformation of veronal, dial, gardenal into cyanogen compounds. Consequences in toxicology. It is known that hydrocyanic acid under the influence of putrefaction can be partially converted into thiocyanic acid, and the presence of the latter is frequently the only proof of poisoning by a cyanogen compound. Human viscera, even after much putrefaction, are normally free from thiocyanates, but after the administration of veronal, dial, or gardenal, appreciable quantities of thiocyanates can be found. These new facts must be taken into account by toxicologists.

COPENHAGEN.

Royal Danish Academy of Science and Letters, Nov. 15.—Elis Strömgren: Continued researches on the restricted problem of three bodies. Continued