Science News a Century Ago

Royal Astronomical Society

AT the anniversary meeting of the Royal Astronomical Society held on February 8, 1839, the council congratulated the Society on the flourishing conditions of its finances, and on the activity and zeal which were displayed in all branches of astronomical science, marked more especially by the recent discovery of the parallax of the fixed stars, by two of the fellows of the Society in different hemispheres. Obituaries of deceased members were read and mention made of the services they had rendered to science; special reference was made to the late Dr. Bowditch of Boston. The gold medal for the year was awarded to the Hon. John Wrottesley for his catalogue of the right ascension of 1318 stars —a work which had been of great assistance in the formation of the new general catalogue then in course of reduction.

Sir John Wrottesley, afterwards Baron Wrottesley, was born in 1798 and died in 1867. A barrister by profession, he served as president of the Royal Astronomical Society in 1841–43 and as president of the Royal Society in 1854–57.

Nitrogen in Plants

"SOME experiments made by Boussingault," said the *Athenæum* of February 9, 1839, "show that trefoil, cultivated in a soil previously calcined to a red heat, admits a certain quantity of nitrogen into its organisation, which probably proceeds from the atmosphere. On repeating the experiment with peas, a similar result was obtained; and besides this, the peas, with no other nourishment than that which had been derived from water and air, have flowered and yielded perfect seeds, and the nitrogen was more than double in quantity to that originally contained in the peas. On comparing these experiments with those made on oats, etc., it appears that only certain plants are apt to derive nitrogen from the air, but the manner in which this elementary body fixes itself in vegetables is not known."

University Events

LONDON.—Dr. John McMichael has been appointed to the University readership in medicine tenable at the British Postgraduate Medical School. He will take up his duties early in March. Since 1936 he has been Johnston and Lawrence research fellow of the Royal Society of Edinburgh and extra honorary assistant physician at the Royal Infirmary, Edinburgh.

Dr. W. T. J. Morgan has been appointed as from January 1, 1939, to the University readership in biochemistry tenable at the Lister Institute of Preventive Medicine. Since 1929 he has been biochemist and first assistant in the Serum Department of the Institute at Elstree.

The title of professor emeritus of mycology in the University has been conferred on Prof. E. S. Salmon, formerly University professor of mycology at the South-Eastern Agricultural College.

Mr. C. C. L. Gregory, lecturer in astronomy at University College, has been appointed director of the University Observatory.

Societies and Academies

Paris

Academy of Sciences (*C.R.*, 208, 57–131, Jan. 9. 1939).

A. LACROIX: Silent stages in the formation of a new crater of the caldera type at the summit of the Piton de la Fournaise (Reunion Isle).

E. ESCLANGON: Definition of force in the special theory of relativity.

B. SEGRE: A fundamental theorem of geometry on algebraic surfaces.

S. EILENBERG: Co-homologies and continuous transformations.

R. SALEM: Mean convergence of Fourier series.

L. KANTOROVITCH and A. PINSKER: General forms of partially additive functions in certain semi-ordered spaces.

N. OBRECHKOFF: Zeros of some *fonctions entières*.

C.-T. CHUANG: Holomorph functions in the *cercle unité*.

E. LEFEBVRE: Functions of a complex variable defined by a linear relation between the variable and logarithm of the function, the coefficients being some polynomials related to the function.

O. YADOFF: A method of measuring the speed of the 'front' of a gaseous jet.

C. SĂLCEANU: The velocity of sound in binary mixtures of liquids, by a resonance method.

T. V. IONESCU: Mode of action of ionized gas oscillators in the magnetic field.

MME. Z. SOUBAREW-CHATELAIN: Application of the conductimetric method to the simultaneous determination of molybdic acid and of ammonia in the ammono-molybdates.

G. CHAUDRON and A. MICHEL: Thermo-magnetic characteristics of cubic iron sesqui-oxide.

L. DUNOYER: Emission from the ends of luminescent tubes: numerical results.

G. DÉCHÊNE: A new type of photo-electric cell. The contact resistance of a semi-conducting piece of treated 'Cellophane' applied to a layer 2–3 mm. thick of yellow or red mercuric oxide can be used for qualitative work in the visible and ultra-violet.

MLLE. M. PEREY: Element 87, a derivative of actinium. There would appear to be two isotopes of atomic number 87, one of short life (21 min.) announced here, and another of long life found by M. Hulubei.

B. PONTECORVO and A. LAZARD: Nuclear isomerism produced by a continuous spectrum of X-rays.

G. OCCHIALINI: Measurement of the effect of latitude on cosmic ray showers. Measurements at sea between Bahia and Trieste suggest that the showers are due to radiation of the same quality in both equatorial and temperate regions.

R. DELAPLACE and C. BÉCHARD: Determination of freezing point and boiling point, at reduced pressure, of mixtures of ethylglycol and water.

P. BASTIEN: Researches on the evolution in air, in water and in a vacuum, of brittleness due to acid pickle in extra-soft annealed steel.

P. CARRÉ and L. PEIGNÉ: Some anti-oxygen effects from the point of view of the practical rule of the 'electronic strain'.

L. PALFRAY and S. SABETAY: Catalytic dehydrogenation, by means of Raney or ordinary nickel.

J.-H. HOFFET: Genesis of iron beds on the right bank of the Red River (Tonkin). There is a large reserve of iron capable of exploitation.

C. DAUZÈRE : Geographical distribution of lightning strokes in the Département du Gers.

MLLE. M. CELAN : New preliminary researches on the synapses of red algæ.

R. GAUTHERET : Possibility of realizing indefinite culture of tissues of carrot tubercules. Such tissue has been maintained for more than a year, and is very resistant to changes of conditions.

M. AUBERTOT : Presence of a dorsal contractile vessel in the genus *Acerentomon*.

P. CHABANAUD : Geonemy of unsymmetrical teleosteans.

P. CHAUCHARD : Chronaximetric analysis of the block of conduction in nerves ; realization of a paralysing heterochronism.

A. POLACK : Correcting glasses for those operated on for cataract.

P. LÉPINE and P. SÉDALLIAN : Presence of poliomyelitic virus in the intestinal contents of a living infant in an infected family ; isolation of the virus.

Amsterdam

Royal Netherlands Academy (*Proc.*, 41, No. 9, 1938).

L. RUTTEN : Geological investigations in mid-Dalmatia and Herzegovina.

J. G. VAN DER CORPUT : Hyperconvex aggregates in the plane.

T. L. DE BRUIN and J. N. LIER : Absorption spectrum of thorium.

B. J. D. MEEUSE : Some observations on special structures in the cell walls of plants.

J. VAN SOEST : Tilted late breccias on the south-eastern Biokovo slopes (Dalmatia).

F. DE WITT PUYT : The Klobuk (a mountain) at Ljubuški, a tectonic klippe.

D. G. MONTAGNE : Some Rudistæ and Nerineidæ from mid-Dalmatia.

F. KEIJZER : Middle Eocene Foraminifera from the flysch in the neighbourhood of Omis, Dalmatia.

A. TEN DAM : Foraminifera from the Oligocene and Miocene of the Eastern Netherlands.

M. J. L. DOLS and B. C. P. JANSEN : Studies on phosphorus metabolism in normal and rachitic rats with a radioactive phosphorus isotope (2). The total phosphorus and lipin phosphorus content and the formation of lipin phosphorus.

E. FREY : Studies on the hypothalamic optical nerve of the Amphibia (1). *Rana mugiens*, *Rana esculenta*, *Bombinator pachypus* and *Pipa pipa*. (2) *Proteus anguineus* and the phylogenetic significance of the hypothalamic optical nerve.

A. MOCHTAR and W. K. MERTENS : Single cell culture of *Leptospira*.

Brussels

Royal Academy (*Bull. Classe Sci.*, No. 11, 1938).

C. J. DE LA VALLÉE POUSSIN : Irregular points. The determination of masses by potentials (2).

P. BURNIAT : Note on certain varieties of Segre.

L. LINSMAN : Certain topological evolutions.

L. DERWIDUÉ : Fundamental surfaces of the second kind of the birational transformations of four-dimensional space.

J. THOREAU and J. VERHULST : Atacumite from Katanga. Crystallographic, optical and X-ray investigations on this mineral.

J. PASTEELS : Sensitizers and an organizer in the activation of the egg of *Barnea candida*.

J. BRANDÈS : Effects of the local application of ultra-violet rays on the blastulæ and gastrulæ in the Discoglossa.

Copenhagen

Royal Danish Academy of Sciences and Letters, October 21.

NIELS BOHR : Reactions of atomic nuclei. In connexion with the communication of a paper, written in collaboration with G. Placzek and R. Peierls, a general survey is given of the use of simple mechanical ideas and thermodynamic analogies to explain several characteristic features of nuclear reactions.

November 4.

FRITZ BUCHTAL and J. LINDHARD : Physiology of the striated muscle fibre. On the basis of the experimental results from work on isolated cross-striated muscle-fibres, a new contraction hypothesis is put forward. The anisotropic segments of the myofibrils consisting of myosin-chains are more or less stretched in an electrostatic field in the resting fibre. On excitation, this electric field decreases, the myosin micellæ become coiled up, whereby the fibre contracts.

November 18.

J. N. BRØNSTED : Foundation and formulation of the thermodynamic laws. On the basis of points of view previously stated concerning the impossibility of heat-work transformation in ordinary thermodynamics, the fundamental conceptions and principles in thermodynamics are developed in a form which to some extent deviates from the traditional treatment of the subject.

December 2.

OTTO NEUGEBAUER : An edition of an Egyptian astronomical papyrus (Pap. Carlsberg 9) prepared in collaboration with A. Volten. The papyrus contains a calculation of new moons and for the first time gives some insight into a mathematical astronomy among the Egyptians. [See also NATURE of January 21, p. 115.]

December 16.

C. M. STEENBERG : An examination of the Skrydstrup woman's hair and the material of her dress.

Vienna

Academy of Sciences, December 7.

H. HABERLANDT : Radiobarytes from Teplitz and Carlsbad. It is found that the radioactive material is concentrated on the surface of the barytes crystals, and in particular along cracks. The fluorescence spectrum of the barytes from Teplitz indicates that the radioactive material is uranium, while the Carlsbad mineral contains no uranium and probably owes its activity to radium.

F. WERNER : Report of eight scientific expeditions to Greece.

S. BLATTMANN : Stratigraphy and tectonics of the Radstädter Tauern.