Societies and Academies

Edinburgh

Royal Society of Edinburgh, February 6.

P. A. M. DIRAC: The relation between mathematics and physics (Address). In setting up a theory of natural phenomena, one strives in the first place for simplicity; but it seems that mathematical beauty is really a more important quality than simplicity. It is difficult to put any limitation on the extent to which mathematics applies to the description of the universe, and one is led to think that it must apply to everything. In such a complete scheme one could scarcely expect simplicity, but one may well have beauty. The discussion of these questions is much influenced by modern advances in quantum mechanics and in cosmological theory.

R. A. ROBB and T. R. TANNAHILL: Lunar atmospheric pressure variations at Glasgow. The Glasgow barograph records of 1868–1912 have been examined for the determination of the lunar atmospheric tide at Glasgow. It is found that on barometrically quiet days there exists a local lunar variation, mainly diurnal in character, not predicted by theory. The diurnal component appears to increase progressively with quietness of day. Removal of this variation results in a probable value of the normal lunar tide of:

$$0{\cdot}0110 \sin (2\theta + 60^\circ) \text{ millibar},$$

θ being reckoned from upper lunar transit.

Paris

Academy of Sciences (*C.R.*, **208**, 237–312, Jan. 23, 1939).*

L. DOMANGE: Stability of manganic sulphate in aqueous solutions of sulphuric acid.

MLLES. M. MONTAGNE and Y. ISAMBERT: Action of ethylmagnesium bromide on butyric ethylanilide.

P. GRAMMATICAKIS: Secondary reactions observed in the course of the condensation of organo-magnesium compounds with phenylhydrazones.

L. PALFRAY, S. SABETAY and A. HALASZ: Preparation of some alcoxy- and arylalcoxyethanols and higher homologues.

E. A. DE LA RÜE: Contribution to the mineralogical study of the coast of French Somaliland.

A. MICHEL-LÉVY and J. WYART: Synthesis of orthose and of albite by pneumatolysis with the aid of explosives.

E. DESGUIN and A. DAUVILLIER: Origin of life.

P. DANGEARD: The alga *Vaucheria* observed in the region of the south-west [of France], and a new species of this genus.

G. LAISNE: Variations of the osmotic pressure of tissue sugar of *Fraxinus excelsior* L. and of some other plants in the course of artificial haymaking.

J. LEFÈVRE: Similarity of the cytological effects exerted by phenylurethane and colchicine on plants.

J. COMANDON and P. DE FONBRUNE: Preparation and mode of action of traps of predatory fungi for nematodes; investigations by the aid of micromanipulation and cinematography.

R. GIRARD: A case of evolution of *Hypoderma bovis* De Geer on the horse.

M. PIETTRE: Conditions of preparation, at low temperatures, of crystalline oxyhæmoglobin.

G. MOURIQUAND: Resistance to avitaminosis.

(*Continued from p. 307)

Cracow

Polish Academy of Sciences and Letters (*C.R., Classe Sci. Math. et Nat.*, Jan. 9, 1938).

W. FRIEDBERG: Attempt at a stratigraphy of the Miocene of Poland, based on the molluscan fauna (2).

F. ROGOZIŃSKI: (1) Chlorophyll and the carotinoids of some marine algæ (from the Gulf of Naples). Carotinoids are present in relatively large quantities in brown and green algæ, but in small quantities in red algæ. Chlorophyll is low in brown and red algæ, while in certain green algæ the quantity is greater than in many land plants. (2) Chlorophyll in the digestion of larvæ of certain Lepidoptera. Gravimetric estimation of the chlorophyll in the excrement of certain Lepidoptera shows that it is present in considerable quantity and unaltered in form.

W. ŚWIENTY: Blood vessels in the ventral fins of certain teleosteans.

A. KOZŁOWSKI: Researches on the summer eggs of aphids. Synchronous and heterochronous segmentation are found in these parthenogenetic eggs up to the sixth division. During the seventh division and later, synchronous division of all the cells was never observed.

Dublin

Royal Irish Academy

R. LLOYD PRAEGER: A further contribution to the flora of Ireland. This is an epitome of recent advances in our knowledge of the flora of Ireland, so far as the higher plants are concerned, and forms a supplement to the census of the Irish flora which was given in "The Botanist in Ireland" published in 1934.

Tokyo

Imperial Academy (*Proc.*, **14**, No. 10, 359–397; 1938).

KÔSAKU YOSIDA, YUKIO MIMURA and SHIZUO KAKUTANI: Integral operator with bounded kernel.

KÔSAKU YOSIDA: Operator-theoretical treatment of Markoff's process.

MASAO INOUE: Process of constructing the solution to Dirichlet's problem.

KEISIN SUZUKI, MASAAKI HURUHATA and GORÔ KUROIWA: Photographic observations of new variables and some known variables in Cygni. With the 10-cm. triplet camera attached to the 20-cm. refractor at the Tokyo Science Museum, 125 photographs were taken around α and η Cygni.

KOJI HIDAKA: (1) Horizontal oscillations of bay water induced by tidal currents. (2) Free oscillation of water in an oval basin.

SHÔSHIRÔ HANZAWA: Studies on the foraminiferal fauna found in the bore cores from the deep well in Kita-Daitô-Zima (North Borodino Island). The following characteristics were examined: (*a*) lithological character of the bore cores; (*b*) organic contents and the state of preservation of fossils; (*c*) distribution of the foraminiferal fauna in the bore core and their stratigraphical ranges; geological ages of the bore cores.

TORANOSUKE SUGIURA: A list of chromosome numbers in angiospermous plants. (5). Species from eighteen families are given.

TOKI-O YAMAMOTA: Distribution of temperature constants in *Oryzias latipes*.

SEIGO FUNAOKA AND NORITOKI SAITO: Study of lymph.