

May 4 this comet appeared as a circular nebulosity 1.5 diameter, magnitude between 8 and 9. There was a diffuse nucleus but no tail.—Nicolas **Kryloff**: Some properties of integral equations with non-symmetrical nucleus.—J. **Tamarkine**: The problem of the development of an arbitrary function in a Sturm-Liouville series.—W. F. **Osgood**: An extension of a theorem of Weierstrass and on a restriction of another theorem by the same author.—M. **d'Ocagne**: The general application of the method of aligned points to problems which reduce themselves to solutions of spherical triangles.—Th. **Got**: The equivalence of certain indefinite ternary quadratic forms of the same genus.—L. **Décombe**: The viscosity of the atom. In the absorption of light and in certain abnormal dielectric phenomena an explanation is found in a certain viscosity term, proportional to the velocity, and regarded hitherto as an empirical term. An attempt is made to connect this with the fundamental principles of mechanics.—A. **Tian**: The relation between light energy and photochemical action. An examination of the conditions under which the law of proportionality between photochemical effect and light absorption is verified.—L. **Chaumont**: The theory of apparatus serving for the study of elliptically polarised light.—R. **Fortrat**: The normal magnetic triplet and Preston's rule.—Jacques **Carvallo**: The electrical conductivity of pure ether. An arrangement is described securing the perfect isolation of the electrodes. Under a constant difference of potential of 1144 volts the conductivity diminished slowly for eight days, after which it remained constant. The extremely small residual conductivity observed is attributed to traces of impurities.—Kevin **Burns**: Interference measurements of wave-lengths in the iron spectrum. Employing the methods of Buisson and Fabry, interference measurements of the iron lines have been extended from wave-length 6500 to 8824.—Félix **Bidét**: The displacement limit of monoethylamine by ammonia gas. A study of the influence of temperature and pressure on the equilibrium limit and on the velocity of the reaction.—Georges **Charpy** and André **Cornu**: The separation of graphite in alloys of iron and silicon.—A. **Recoura**: The instability of ferric fluosilicate and its spontaneous transformation into another double fluoride of silicon and iron.—J. B. **Senderens** and J. **Abouïenc**: The ester salts derived from octanol by the method of the authors; observations on the principle of this method. The application of the use of small quantities of sulphuric acid (2 per cent. to 3 per cent.) in the catalytic formation of esters.—Georges **Dupont**: The catalytic hydrogenation of the acetylene γ -glycols in presence of palladium black. Acetylene glycols of the fatty series treated with hydrogen and palladium black are more highly reduced than when platinum black is used. A mixture of a saturated glycol, alcohol, and hydrocarbon is produced. The difference between the two catalytic agents is still more marked with the aromatic acetylenic glycols, platinum giving the saturated glycols only, palladium the hydrocarbons.—A. **Guyot** and J. **Martinet**: The condensation of the primary and secondary aromatic amines with the mesoxalic esters. Synthesis in the indole series.—Jean **Nivière**: The action of α -monochlorohydrin and epichlorohydrin upon the monosodium derivative of glycerol.—Marcel **Lantenais**: Some new properties of carbon tetraiodide and its estimation in presence of iodoform. Carbon tetraiodide reacts with an aqueous solution of silver nitrate giving carbon dioxide, nitric acid, and silver nitrate; iodoform, with the same reagent, gives carbon monoxide, silver iodide, and iodate and nitric acid. When aqueous solution of silver nitrate is allowed to act upon a mixture of iodoform and carbon tetraiodide the proportion of carbon monoxide and dioxide evolved serves accurately to

indicate the composition of the mixture.—Henri **Pottevin**: Cholera toxin and antitoxin.—A. **Besredka**: Study of the tubercle bacillus. A description of a good liquid medium for the culture of the tubercle bacillus. The growth after twenty-four hours in this liquid is as abundant as that of an ordinary microbe such as streptococcus. Bovine and human bacilli give distinctive growths in this medium.—Mme. A. **Hufnagel**: A pericesophagian organ observed in two Lepidoptera.—Em. **Bourquelot** and Em. **Verdon**: The use of increasing proportions of glucose in the biochemical synthesis of β -methylglucoside. The influence of the glucoside formed on the arrest of the reaction.

CALCUTTA.

Asiatic Society of Bengal, May 7.—D. **Prain** and I. H. **Burkill**: A synopsis of the Dioscoreas of the Old World, Africa excluded, with descriptions of new species and of varieties. Diagnoses of new species and varieties are given, as well as a key to the genus.—H. M. **Chibber**: Variations in the flowers of *Limnanthemum indicum*, Thwaites. Four hundred and fifty-seven flowers were examined and the variations observed are given in tabular form.—Maude L. **Cleghorn**: Notes on pollination of *Colocasia antiquorum*. The paper records some observations on the pollination of the Indian Kachu, and compares it with the process known in the European cuckoo-pint (*Arum maculatum*).—Jitendra Nath **Rakshit**: Double compounds of mercuric oxide with compounds containing ketonic radical. A compound is described of the formula $C_3H_6O, 3HgO$.

BOOKS RECEIVED.

British Museum (Natural History). Catalogue of the Plants collected by Mr. and Mrs. P. A. Talbot in the Oban District, South Nigeria. By Dr. A. B. Rendle, E. G. Baker, H. F. Wernham, S. Moore, and others. Pp. x+157+17 plates. (London: The Trustees of the British Museum; Longmans and Co. and others.) 9s.

British Museum (Natural History). Catalogue of the British Species of *Pisidium* (Recent and Fossil) in the Collections of the British Museum (Natural History), with Notes on those of Western Europe. By B. B. Woodward. Pp. ix+144+xxx plates. (London: The Trustees of the British Museum; Longmans and Co. and others.) 10s. 6d.

Die biologischen Grundlagen der sekundären Geschlechtscharaktere. By Drs. J. Tandler and S. Grosz. Pp. 169. (Berlin: J. Springer.) 8 marks.

Qualitative Analyse vom Standpunkte der Ionenlehre. By Dr. W. Böttger. Dritte Auflage. Pp. xvii+565+plate. (Leipzig: W. Engelmann.) 11.20 marks.

A Text-Book on Trade Waste Waters: their Nature and Disposal. By Drs. H. M. Wilson and H. T. Calvert. Pp. xii+340. (London: C. Griffin and Co., Ltd.) 18s. net.

Preliminary Chemistry. By H. W. Bausor. Pp. 106. (London: W. B. Clive.) 1s. 6d.

Man and his Forerunners. By Prof. H. v. Buttel-Reepen. Translated by A. G. Thacker. Pp. x+96. (London: Longmans and Co.) 2s. 6d. net.

Researches on Irritability of Plants. By Prof. J. C. Bose. Pp. xxiv+376. (London: Longmans and Co.) 7s. 6d. net.

Egyptian Government. Ministry of Finance. Survey Department. Report on the Work of the Laboratories and of the Assay Office during 1912. By A. Lucas. Pp. 28. (Cairo: Government Press.) 5 P.T.

Electric Wiring. By Prof. W. C. Clinton. New edition. Pp. viii+197. (London: J. Murray.) 2s.

Unsere Kohlen. By P. Kukuk. Pp. x+120+plate. (Leipzig: B. G. Teubner.) 1.25 marks.

Problèmes de Mécanique et Cours de Cinématique. By Prof. C. Guichard. Pp. 156. (Paris: A. Hermann et Fils.) 6 francs.

Leçons de Thermodynamique. By Dr. M. Planck. Translated by R. Chevassus. Pp. 310. (Paris: A. Hermann et Fils.) 12 francs.

Western Australia. Meteorology of Australia. Commonwealth Bureau of Meteorology. Results of Meteorological Observations made in Western Australia during 1908. Pp. 130+maps. (Perth, W.A.: F. W. Simpson.)

Guide-Annuaire du Gouvernement Général de Madagascar et Dépendances. Année 1913. Pp. viii+788. (Tananarive: Imprimerie Officielle.)

Die Züchtung kolonialer Gewächse. Edited by C. Fruwirth. Pp. xix+184. (Berlin: P. Parey.) 9 marks.

Grundriss der Kristallographie. By Dr. G. Linck. Dritte Auflage. Pp. viii+272+iii plates. (Jena: G. Fischer.) 11.50 marks.

Das Pflanzenreich. Edited by A. Engler. 59 Heft (iv+251). Hydrophyllaceæ. By A. Brand. (Leipzig: W. Engelmann.) 10.60 marks.

An Elementary Treatise on Calculus. By W. S. Franklin, B. MacNutt, and R. L. Charles. Pp. x+253+41. (S. Bethlehem, Pa.: The Authors, Lehigh University.) 2 dollars.

Plants and Their Uses. By F. L. Sargent. Pp. x+610. (New York: H. Holt and Co.)

The Wanderings of Animals. By Dr. H. Gadow. Pp. vi+150+maps. Wireless Telegraphy. By Prof. C. L. Fortescue. Pp. vi+143. Beyond the Atom. By Prof. J. Cox. Pp. 151. Submerged Forests. By C. Reid. Pp. 129. Bees and Wasps. By O. H. Latter. Pp. vi+132. (Cambridge Manuals of Science and Literature.) (London: Cambridge University Press.) 1s. net each.

A Junior Course of Arithmetic. By H. S. Jones. Pp. ix+224. (London: Macmillan and Co., Ltd.) 1s. 6d.

Practical Bacteriology, Microbiology, and Serum Therapy (Medical and Veterinary). By Dr. A. Besson. Translated and adapted from the fifth French edition by Prof. H. J. Hutchens. Pp. xxx+892. (London: Longmans and Co.) 36s. net.

Liquid Steel: its Manufacture and Cost. By D. Carnegie, assisted by S. C. Gladwyn. Pp. xxv+520+x plates. (London: Longmans and Co.) 25s. net.

The Bodley Head Natural History. Vol. i., British Birds. Passeres. By E. D. Cuming. Pp. 120+iii plates. (London: J. Lane.) 2s. net.

DIARY OF SOCIETIES.

THURSDAY, JUNE 5.

ROYAL SOCIETY, at 4.30.—Croonian Lecture: The Origin of Mammals: Dr. R. Broom.—The Fossil Floras of the Wyre Forest, with Special Reference to the Geology of the Coalfield and its Relationships to the Neighbouring Coal Measure Areas: Dr. E. A. Newell Arber.

ROYAL INSTITUTION, at 3.—Recent Chemical Advances. III. The Structure of Crystals: Prof. W. J. Pope.

LINNEAN SOCIETY, at 8.—A Contribution to the Flora and Plant Formations of Kinabalu and the Highlands of British North Borneo: Miss L. S. Gibbs.—The Hydronhilidæ: Histeridæ of the Percy Sladen Expedition to the Seychelles: H. Scott.—Marine Algæ from the Indian Ocean: Mme. Weber van Bosse.—Myrmeleoniidæ from the Indian Ocean: J. G. Needham.—Rhynchota of the Seychelles: I. Heteroptera: W. L. Distant.—Mystroptalon, Harv.: Prof. R. J. Harvey Gibson.

FRIDAY, JUNE 6.

ROYAL INSTITUTION, at 9.—Reflection and Refraction of Light as Concealing and Revealing Factors in Sub-aquatic Life: F. Ward.

GEOLOGISTS' ASSOCIATION, at 8.—Palæolithic Man in the Thames Valley: H. Dewey.

SATURDAY, JUNE 7.

ROYAL INSTITUTION, at 3.—Radio-activity. III. The Radio-active State of the Earth and Atmosphere: Prof. E. Rutherford. (The Tyndall Lectures.)

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MONDAY, JUNE 9.

ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—Across Southern Jubaland to the Lorian Swamp: I. N. Dracopoli.

TUESDAY, JUNE 10.

ROYAL ANTHROPOLOGICAL INSTITUTE (Royal College of Surgeons, Lincoln's Inn Fields, W.C.), at 2.30.—Racial Migrations in Africa: Sir H. H. Johnston.

WEDNESDAY, JUNE 11.

GEOLOGICAL SOCIETY, at 8.—Certain Upper Jurassic Strata of England: Dr. H. Salfeld.—The Volcanic Rocks of the Forfarshire Coast and their Associated Sediments: A. Jowett.—Metamorphosed Sediments between Machakos and Lake Magadi (British East Africa): J. Parkinson.

THURSDAY, JUNE 12.

ROYAL SOCIETY, at 4.30.—Probable Papers: Recent Researches on the Palatine in Relation to Geology, Ethnology, and Physics: Commendatore Bori.—The Trypanosomes causing Dourine (Mal de Coit or Reschälseuche): Dr. B. Blacklock and Dr. W. Yorke.—The Growth and Sporulation of the Benign and Malignant Tertian Malarial Parasites in the Culture Tube and in the Human Host: J. G. Thomson and D. Thomson.

FRIDAY, JUNE 13.

ROYAL ASTRONOMICAL SOCIETY, at 5.
MALACOLOGICAL SOCIETY, at 8.—Note on the Genus Pseudomalaxis, Fischer, and Descriptions of a New Species and a New Subgenus: Marqués de Monterosato.—Note on the Freshwater Mollusca found with *Unio auriculatus*, Spengli, at Barn Elms, Surrey: A. S. Kennard and B. B. Woodward.—The Land Mollusca of the Kermadec Islands: Tom Iredale.—Definitions of Further New Genera of Zonitidae: G. K. Gude.
PHYSICAL SOCIETY, at 8.—Some Experiments on Tinfoil Contact with Dielectrics: G. E. Baird.—A Method of Measuring the Pressure of Light by Means of Metal Foil: G. D. West.

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