

Birthdays and Research Centres.

July 12, 1863.—Dr. L. CH. ALBERT CALMETTE, For.Mem.R.S., sub-director of the Pasteur Institute, Paris.

I am conducting researches on snake venoms, anti-venomous serums (1892–1900); bubonic plague and serotherapy; tuberculosis, mechanism of infection, and preventive vaccination of babies with B.C.G.

July 22, 1865.—Sir RICHARD A. S. REDMAYNE, K.C.B., consulting mining engineer, professor of mining in the University of Birmingham, 1902–8, and H.M. Chief Inspector of Mines, 1908–20.

My object of chief investigation now in progress is the freeing of coal from the seam by non-inflammable means. The importance of this is obvious when one considers the great loss of life in gassy and/or dry and dusty coal-mines from explosions initiated by the flame of explosives.

A commercially possible process for the liquefaction of coal is a subject worthy of investigation. Were it possible to liquefy coal profitably the whole outlook of the coal-mining industry of the world, and Great Britain in particular, would be transformed for the better.

The commercial production of beryllium is also a subject to which attention might usefully be given. The importance of beryllium as a valuable alloy with copper, aluminium, and other metals has emerged recently.

The devising of an economical method of extracting alumina from bauxite containing 8 per cent and more of silica; as well as the extraction of alumina from lower grade ore generally, including clays, deserve attention. The high-grade ores of aluminium (bauxite) are not very extensive, and it is in the highest degree desirable with the greatly increasing importance and output of aluminium that a practicable and profitable means of extraction of alumina from the lower grade ores and, if possible, from clays generally should be found.

July 24, 1856.—Prof. EMILE PICARD, For.Mem.R.S., member of the French Academy, and permanent secretary of the Paris Academy of Sciences.

J'ai de l'intérêt pour l'analyse mathématique, la théorie des fonctions et la théorie des nombres. J'ai publié divers ouvrages sur l'histoire et la philosophie des sciences.

Societies and Academies.

LONDON

Geological Society, June 17.—Olaf Holtedahl: Some general structural features of the arctic and adjacent regions. The huge region comprising the Canadian and the Baltic Shields and the areas lying between them represents a sort of structural unit which may be more or less symmetrically divided by two lines, one north and south, the other at right angles to it, crossing each other in the central part of Greenland. Although Baffin Land and the western zone of Fennoscandia had a somewhat different history in ancient geological times, yet each may be regarded as the reflected image of the other, both consisting of mountain ranges with the highest elevation on the side bordering the adjacent deep sea area. In the northward continuation of these two zones, in Ellesmereland and Spitsbergen respectively, and at the north end of Greenland, are other zones where the distribution of the various formations tells of a some-

what similar inclination of the earth's crust; an inclination away from central Greenland, the previously mentioned structural centre. Thus there is, in a roughly ring-shaped belt, an inclined elevation of recent, probably younger Tertiary, date, and it seems a natural conclusion that this particular elevation has been of fundamental importance in the gathering of snow, which in Quaternary time developed into the modern ice-fields, the centre of which coincides with the above-mentioned structural centre.—James Archibald Douglas and William Joscelyn Arkell: The stratigraphical distribution of the cornbrash: (2) The north-eastern area. Attention has been chiefly confined to the brachiopod zones, and their distribution throughout the area is indicated by a detailed account of many typical exposures. Further readjustment of Buckman's zonal table has been found necessary in respect of the zones of *Tegulithyris bentleyi* and *Obovothyris stiltonensis*. The evidence for and against penecontemporaneous erosion is discussed.

PARIS.

Academy of Sciences, May 26.—Charles Nicolle and Ugo Lumbroso: The immunity following a natural attack and cure of trachoma against an experimental re-inoculation of the virus.—A. F. Holleman was elected *Correspondant* for the section of chemistry.—Long: The *W* surfaces.—Maurice Potron: A fundamental theorem of the theory of finite continued groups of transformations.—Marcel Winants: Determination of a function of functions by means of an integral equation.—Teissié-Solier: The conditions of use of a Pitot tube and the impulse of a turbulent jet on a plate.—J. Le Roux: The impossibility of a law of gravitation for an aggregate comprising only two material points.—Ch. Sadron: The ferromagnetic saturation of elements other than iron, nickel, and cobalt, and the periodic system.—L. Bull and Mile. Suzanne Veil: The optical study of the secondary Liesegang rings.—L. Bert and R. Annequin: A new method of synthesis of einnamic aldehyde and its homologues substituted in the nucleus. $C_6H_5 \cdot CH_2 \cdot CH : CHCl$, ω -chlorallylbenzene is converted into $C_6H_5 \cdot CH_2 \cdot CHCl \cdot CHCl_2$ (or the corresponding bromine compound), and this, by heating with sodium ethylate in excess, into the diethyl acetal of cinnamic aldehyde. The reaction is general, and can be applied to the preparation of homologues of cinnamic aldehyde.—J. D. Strelnikov: The influence of the solar radiations on the temperature of the bodies of insects. The body temperature of insects is raised by exposure to the sun, and the organism of an insect is very sensitive to slight changes in the surrounding medium.—Michel Polonovski and Albert Lespagnol: Two new sugars from human milk, gyrolactose and allolactose. In the course of analyses of human milk by the ordinary polarimetric and reduction methods the divergences found suggested the presence of sugars other than lactose. Two new sugars have been isolated as the result of a long series of fractional crystallisations, and these have been named gyrolactose and allolactose. The properties of these two sugars are found to explain the abnormalities found on analysis.

CAPE TOWN.

Royal Society of South Africa, April 15.—B. Farrington: Vesalius on vivisection. This paper is a translation of the last chapter of the *De Humani Corporis Fabrica* of Vesalius, which bears the title "Some Observations on the Dissection of Living Things". Though Vesalius did not advance the study of physiology to anything like the same degree as he did the science of anatomy, his book is, none the less,

in the words of Sir M. Foster, "the beginning not only of modern anatomy but of modern physiology". The physiological experiments described by Vesalius have a direct connexion with the series of observations on living animals that enabled Harvey to demonstrate the circulation of the blood.—**J. H. Power**: On the herpetological fauna of the Lobatsi-Linokana area. An unexpected result of the author's collecting at Linokana was the discovery, in many cases, of different species, of certain genera, from those found at Lobatsi. The two localities are connected by a narrow valley between two ranges of hills, seemingly an admirable condition for ensuring that the reptile and amphibian faunas should be the same. The list of species collected materially extends the range of many species. The relationships of *Gerrhosaurus flavigularis* and *G. nigrolineatus*, and *Bufo tuberculatus* and *B. regularis gutturalis*, are discussed.—**J. W. C. Gunn** and **D. Epstein**: The reaction of *Xenopus* to digitalis. It has been stated that in *Rana* there are unexplainable variations in the response to digitalis as shown by the differences in the minimal lethal doses in individual animals on any one day, in groups of animals from day to day and in other ways. Such variations are not seen with *Xenopus* even when kept in captivity for several months. It is therefore superior to *Rana* for the biological assay of digitalis by any of the frog methods.—**D. Epstein**, **J. W. C. Gunn**, **E. Epstein**, and **G. Rimer**: The adrenal secretion of *Xenopus laevis*. Morphologists claim that no adrenal bodies are present in *Xenopus*, and various hypotheses have been brought forward to account for the absence of these glands. The authors have shown experimentally the presence of adrenaline in extracts of the kidneys of *Xenopus*. The kidney tissue itself contains no adrenaline, but the active substance is derived apparently from thin yellow streaks present on the ventral surfaces of the kidneys. These streaks probably represent the adrenal glands of *Xenopus*. This has been confirmed histologically by the demonstration of chromaffin tissue.

CRACOW

Polish Academy of Science and Letters, Feb. 9.—**J. Fridrichson**: The fluorescence of manganese vapour.—**Mlle. M. Ney**: The enlargement of diffused lines without change of frequency in the Raman effect. A study of the lines diffused in quartz and in benzene shows that a marked widening of the lines occurs in benzene, but in quartz at 180° C. and at 500° C. no such widening can be observed.—**T. Tucholski**: The spectra of metals obtained by explosive reactions. Studies of the spectra obtained by the explosion of metallic picrates. Explosion spectra are essentially flame spectra, but with some additional characteristic features. The explosion temperatures are between 1900° C. and 3200° C.—**T. Banachiewicz**: An application of the periodograms of Sir Arthur Schuster.—**W. Swietolawski**, **Mme. M. Rybicka**, and **Mme. W. Solodkowska**: An adiabatic microcalorimeter adapted to the measurement of the specific heat of solid and liquid substances. A study of the conditions of working with the microcalorimeter, with special reference to the correction for the gas contained in the apparatus and to the error introduced by evaporation or adsorption of water.—**W. Swietoslawski** and **Mlle. E. Bartoszewiczowna**: (1) The application of the adiabatic microcalorimeter to the determination of the heat of adsorption and of vaporisation. The quantity of liquid required in these determinations is 0.01–0.1 gm., and the errors are 0.2–0.7 per cent for heat of vaporisation and 0.6–1.7 per cent for heat of adsorption.—(2) The determination of the heat of vaporisa-

tion in the fatty alcohol series with the adiabatic microcalorimeter.—**W. Jacek**: The velocity of the solution of marble in acids.—**M. Karasinski**: The determination of fluorine as CaF₂ according to the method of Berzelius. Instead of adding sodium carbonate to secure an easily filtrable precipitate, the author attains the same result by evaporation to dryness and gentle ignition, followed by extraction with water.—**K. Dziewonski** and **J. Moszew**: The synthesis of α -ethylaceneaphthyl ketone.—**St. Kreutz**: Heulandite occurring in the Tatra granites and the volcanic rocks in the neighbourhood of Cracow.—**St. Kreutz**: Crystals of topaz from Jahodenka in the neighbourhood of Horoszk (Wolhynie).—**S. Kozik**: The optical properties of mixed crystals of ammonium and sodium tartrate and of rubidium and sodium tartrate.—**J. Broder**: The diabases of Niedzwiedzia Góra and the formations which accompany them. Chemico-petrographic study.—**J. Zerndt**: Megaspores, characteristic fossils of the productive carboniferous strata.—**W. Szafer**: The ancient diluvial flora of Hamernia on the Lubaczówka.—**Mlle. M. Ziemia**: Biological researches concerning the flowers of the eastern Carpathians.—**M. Gieysztor**: Contribution to the knowledge of the Rhabdocoeles of Spain.—**St. Markowski**: Researches concerning the helminthological fauna of the Corvidae of Poland.—**A. Kulczycki**: The physiological degeneration of the striated muscles.—**Mlle. S. Vrtel**: Histological researches concerning the thyroid gland. The thyroid glands of selacians.—**J. Tur**: New studies on diplogenesis with abortive centres.—**St. Wajda**: Cytological researches on the secretion of the thread-producing glands of the larvæ of Trichoptera.—**J. Wilburg**: The development of the blood-vessels in the foot and toes of *Sus scrofa domestica*.—**M. Rose**: The cellular structure of the cortical substance of the brain of the rabbit.—**W. Heinrich** and **T. Strzembosz**: The function of the capillary vessels with respect to concentration of attention.

GENEVA.

Society of Physics and Natural History, Mar. 5.—**Fern. Chodat** and **Suzanne Kann**: Study of the diurnal course of transpiration of two alpine plants. These experiments were made at the Bourg St. Pierre alpine garden at an altitude of 1650 metres. For *Eryngium*, the authors have detected two clear maxima at 10.30 A.M. and 3.30 P.M. respectively. *Adenostyles alliariae*, a plant requiring shade, has, on the contrary, constant transpiration from morning to evening.—**Fern. Chodat**: The action of light upon cellular permeability. The author interprets the experiments described above as being due to the higher proportion of rays of short wave-length at high altitudes. This explains the difference which exists between the transpiration of plants at low and high altitudes.—**Louis Deshusses** and **Jean Deshusses**: The distribution of the pyrethrins in the pyrethrum flower. The stems contain from a tenth to a fourteenth of the total pyrethrins found in the flower of the same growth. Hence, in the preparation of pyrethrum insecticides in the form of extracts or powders, it is necessary to take this fact into account: this is very important from the point of view of the toxic power of the product obtained.

LENINGRAD.

Academy of Sciences (*Comptes rendus*, No. 19, 1930).—**B. Segal**: A generalisation of Brun's theorem.—**I. Balanovskii**: The computation of rectangular co-ordinates of basic stars on astrophotographic charts.—**E. Semičev**: The fundamental features of electro-

dynamic relations in electromagnetic machinery. In no electrodynamic process is the electromagnetic energy completely transformed into mechanical work. In other words, every electrodynamic process in which the system accomplishes positive, or negative, mechanical work is characterised by some reactive energy taking part in it.—I. Kablukov and F. Perelmann: The heat of combustion of certain organic halogenic compounds. Determinations of the heat of combustion of dichlorethylene, chloroform, chlorobenzene, dibromethylene, bromoform, and bromobenzene.—N. Williams: Hydrogenation of some derivatives of furfuran.

Comptes rendus, No. 20, 1930.—F. Loewinson-Lessing, V. Mitkevitch, and A. Turcev: Experiments in the artificial magnetisation of limonites. Limonites submitted to magnetisation in the electromagnetic field of 2500 gauss, after having been heated to 400°-500° C., do not exhibit any proportionality of the intensity of the magnetisation and the content of the ferrous oxide. The magnetisation depends on the degree of trituration and is more intense in the case of powdered substances. There is a direct relation between the intensity of magnetisation and the manganese content.—B. Brunovski and K. Kunasheva: The radium content of certain plants.—V. Vernadskii: The concentration of radium by plants. Determinations of the radium content of *Lemna* and of the water in which it lives proved that the plant concentrates up to 200 and even 477 times as much radium as is in the water, there being a great difference between plants from different localities. In some cases, it is impossible to detect radium in the water, but its concentration in the plant is very high.—N. Prokopenko: The deposits of solid kaolin in the Dzhungarian Alatau.—E. Litchko: Observations on the regeneration of the extremities in the axolotl under the influence of X-rays. Local radiation for 60 minutes does not affect the regenerative abilities. When the whole animal was subjected to the radiation for 16 minutes but one foot was screened, that foot was able to regenerate, though the animal could not survive more than two months.

Comptes rendus, No. 21.—S. P. Kostychev, V. Gvaladze, and P. S. Eliasberg: The formation of pyruvic acid in lactic fermentation. A method is described for the isolation of the pyruvic acid in the presence of sugar.—V. Gulevitch: Methyl-guanido-oxalic acid (creaton) as a constituent part of muscles. The formula of the creaton was found to be $\text{HN} : \text{C} (\text{NH}_2) . \text{N} (\text{CH}_2) . \text{CO} . \text{COOH}$. It is possible that creaton, like glutathione, takes part in the oxidation processes of the organism.—L. Kantorovitch: Certain developments of the polynoms of S. N. Bernstein.—B. Numerov: The interpretation of gravimetric observations in the case of a single surface of contact.—B. Numerov: The construction of isograms after observations with a gravitational variometer.—B. Barovskii: Description of a new species of the genus *Macrolycus* Waterh. (Coleoptera, Lycidæ). *Macrolycus œmulus*, sp. n., is described from the Ussuri region and Manchuria.

Comptes rendus, No. 22.—A. A. Borisiak: Charles Depéret (obituary).—N. Nasonov: On *Acerorhynchus baicalensis* Rubtzoff (Turbellaria, Rhabdocoela) from Lake Baikal. This species does not belong to the genus *Acerorhynchus* and is more closely allied to *Kainocystis*, so that it cannot be considered a representative of marine Rhabdocoela.—M. A. Menzbier: The combination of factors to which the origin and the development of terrestrial vertebrates is due. Free movement of the head is connected with the

replacing of the branchial apparatus by lungs, this leading to the final victory of aerial over aquatic respiration.—L. Kantorovitch: Certain developments of the polynoms of S. N. Bernstein (2).—N. Terebinskii: Experimental studies of the faults of cardiac valves.—N. O. Olenev: Scientific results of the expeditions in 1928 and 1929 to Kazakstan for the study of parasites of domestic animals. A list of parasites, with their hosts, is given.

Comptes rendus, No. 23.—A. Tugarinov: A fossil ostrich from Transbaicalia. Fragments of ostrich eggs have been found in several localities. The structure of the shells shows some relation to the recent North African ostrich, but there are considerable differences.—V. Barovskii: Description of a new species of the genus *Pyropterus* Muls. (Coleoptera, Lycidæ) from Transcaucasia. *Pyropterus shelkonnikovi*, sp. n.—A. A. Birula: A preliminary communication on the rodents from the quaternary deposits in the Crimea. The quaternary fauna included 18 species of rodents, while at present there are only 14 in the Crimea.—B. A. Kusnecov: A new species of jumping mouse (*Alactagulus shilkovi*, sp. n.) from Semiretchie.—P. Schmidt: Two rare Japanese sharks, *Proscyllium habereri* Hilgendorf and *Apristurus macrorhynchus* Tanaka. Synonyms and supplementary description of the two species mentioned.

MELBOURNE.

Royal Society of Victoria, April 9.—O. A. Mendelsohn: Some observations on the bacterial count of sea-water as determined by samples taken at intervals on a voyage between Australia and Europe.—R. B. Withers: On the development of the tabulate coral, *Pleurodictyum megastomum*. The author works out the mode of growth of the *Pleurodictyum megastomum*, Dun, Yeringian (Upper Silurian) of Victoria, Australia. To the eighth corallite, growth proceeds on a definite plan by budding from the initial corallite. This neanic stage is followed by the epebic stage, when the corallum enlarges without further addition of corallites. The gerontic stage is characterised by the irregular growth of a second ring of corallites, and the insertion of others by intermural gemmation. *Pleurodictyum lenticulare*, Hall sp., Lower Helderbergian (Lower Devonian) of North America, develops in a similar manner.

PRAGUE.

Czech (Bohemian) Academy of Arts and Sciences (Second Class, Natural Sciences and Medicine), Dec. 12.—M. Pelíšek: The rolling of a helix on a congruent helix.—R. Lukes: The action of Grignard's reagent on *N*-methyl pyrrolidon; new synthesis of substituted pyrrolines. Chief products were 1-methyl-2-alkyl-pyrrolins next to 1-methyl-2,2-dialkyl-pyrrolidins. The former were isolated as perchlorates, the latter as picrates.—V. Prelog: The sapogenin of beetroot. Chromic acid oxidises sapogenin to a ketonic acid and di-hydroxy-lactone. With sulphuric acid it yields carbon monoxide, hence its carboxyl is bound to a quaternary carbon atom; the action with tetra-nitro-methane indicates inactive double linkages.—L. Šimek: Graphical solution of reactions and axial forces in a special plane system of rods.—L. Seifert: A system of surfaces of third order which touch a given surface of third order in points of plane intersection.—B. Brauner: A philological note concerning some terms of modern scientific nomenclature.

Jan. 16.—F. Záviska: Notes on the study of universal ether. Critical remarks on the theory propounded by V. Posejpal.—K. Domin: Geobotanical

excursion to the mountain Vysoká in the Little Carpathians.—F. Němejc: Seeds of *Alethopteris rubescens*.—A. Glazunov: The nature of a crystallisation centre. From one crystallisation centre grows a series of crystals forming one, usually heterogeneous, grain (crystallite).

Mar. 6.—J. Petrbock: Molluscs of the Pleistocene terrace of the Danube near Russe in Bulgaria.—K. Petr: The separation of roots of algebraic equations according to the real parts.—B. Dratvová: The problem of causality.—Hrubý: Biometric observations on blossoms of *Anemona nemorosa* L.—L. Borovansky and Pexiderová: The growth of the body and the progression of ossification in girls from birth to eighteen years of age.

Official Publications Received.

BRITISH.

- A Vertical Optical Bench and its use in Practical Light. By Prof. Mohd. A. R. Khan. Pp. 20. (Madras: Diocesan Press, Vepery.)
- Proceedings of the Royal Physical Society, Sessions 1928-29, 1929-30, 1930-31. Vol. 22, Part 1. Pp. 74. (Edinburgh: Oliver and Boyd.) 6s.; to Fellows, 5s.
- Madras Fisheries Department. Administration Report for the Year 1929-30. By Dr. B. Sundara Raj. (Report No. 1 of 1931, Madras Fisheries Bulletin, Vol. 25.) Pp. vii+104+6 plates. 14 annas. Report on a Systematic Survey of Deep-sea Fishing Grounds by S.T. *Lady Goschen*, 1927-28. By Dr. B. Sundara Raj. (Report No. 3 of 1929, Madras Fisheries Bulletin, Vol. 23.) Pp. 153-187+3 charts. 1.8 rupees. (Madras: Government Press.)
- Department of Scientific and Industrial Research. Building Science Abstracts. Vol. 4, New Series, No. 5, May. Abstracts Nos. 748-959. (London: H.M. Stationery Office.) 9d. net.
- The Indian Forest Records. Entomology Series, Vol. 16, Part 3: Immature Stages of Indian Coleoptera (8). (Cerambycidae, contd.) By J. C. M. Gardner. Pp. 41+3 plates. (Calcutta: Government of India Central Publication Branch.) 1.2 rupees; 2s.
- The Scientific Journal of the Royal College of Science. Vol. 1: containing Papers read during the Session 1930-1931, before the Imperial College Chemical Society, the Royal College of Science Natural History Society, the Royal College of Science Mathematical and Physical Society. Pp. 158. (London: Imperial College Union.) 3s. 6d. net.
- Journal of the Marine Biological Association of the United Kingdom. New Series, Vol. 17, No. 2, June. Pp. 277-615. (Plymouth.) 12s. 6d. net.
- Transactions and Proceedings of the Royal Society of South Australia (Incorporated). Vol. 54. Edited by Prof. Walter Howchin, assisted by Arthur M. Lea. Pp. iii+215+9 plates. (Adelaide.) 14s.
- The Civil Servant's Share of the National Income. By G. D. Rokeling. (Reprint of three Articles from *State Service*, April, May, June, 1931.) Pp. 20. (London: The Institution of Professional Civil Servants.) 3d.
- Proceedings of the Geologists' Association. Edited by A. K. Wells. Vol. 42, Part 2, June 25th. Pp. 87-216. (London: Edward Stanford, Ltd.) 5s.
- The Journal of the Institute of Metals. Vol. 45. Edited by G. Shaw Scott. Pp. xii+429+59 plates. (London.) 31s. 6d. net.
- Hull Museum Publications. No. 170: Roman Pottery and Kilns at Throlam, near Holme-on-Spalding Moor, East Yorkshire. By Philip Corder and Thomas Sheppard. Pp. 35. No. 171: The Architectural Gems of East Yorkshire. By Thomas Sheppard. Pp. 32+8 plates. No. 172: Recent Additions. Edited by T. Sheppard. Pp. 19. No. 173: Exhibition illustrating the Architecture of Modern Transport, in the Mortimer Museum, Carr Lane, June 1st to July 12th, 1931. Pp. 16. (Hull.)
- Records of the Geological Survey of India. Vol. 65, Part 1. Pp. 157. (Calcutta: Government of India Central Publication Branch.) 2.12 rupees; 5s.
- Memoirs of the Department of Agriculture in India. Botanical Series, Vol. 17, No. 6: The Effect of some Meteorological Conditions on the Growth of Punjab-American Cotton. By Trevor Trought. Pp. 137-154. (Calcutta: Government of India Central Publication Branch.) 7 annas; 9d.
- Proceedings of the Royal Irish Academy. Vol. 40, Section A, No. 1: The Spectrum of the Cathode Glow in Nitrogen and other Gases. By Dr. K. G. Emelens and Olive Hall. Pp. 10. (Dublin: Hodges, Figgis and Co.; London: Williams and Norgate, Ltd.) 6d.
- The National Central Library, formerly the Central Library for Students. 15th Annual Report of the Executive Committee, 1930-31. Pp. 48. (London.)
- Journal of the Chemical Society*. June. Pp. vi+1313-1627+x. (London.)
- Transactions of the Institute of Marine Engineers, Incorporated. Session 1931, Vol. 43, No. 5, June. Pp. 203-260+xlv. (London.)

FOREIGN.

- Instituts Nationaux à l'Étranger. Pp. 124. (Paris: Institut International de Coopération Intellectuelle.) 15 francs; 2s. 6d.
- Meddelande från Lunds Astronomiska Observatorium. Ser. 2, Nr. 57: Streams among Stars with large Proper Motions. By W. Gillenberg. Pp. 37. 2 kr. Lund Observatory Circular. No. 3, May 31. Pp. 35-66.
- Annals of the Observatory of Lund. No. 2: On Structural Properties of Open Galactic Clusters and their Spatial Distribution, with an Appendix containing a Catalogue of 471 Objects. Academic Dissertation by Per Collinder. Pp. A64+B62+16 plates. (Lund.)

Koninklijk Magnetisch en Meteorologisch Observatorium te Batavia. Verhandeldingen No. 23: Gemiddeld aantal regendagen op Java en Madoera in de vier opeenvolgende, voor iedere plaats droogste maanden van het jaar. Door Prof. Dr. J. Boerema. (With English Summary: Average number of rain-days in Java and Madoera during the driest four consecutive months of the year.) Pp. 25. (Batavia: Landsdrukkerij.)

Proceedings of the Academy of Natural Sciences of Philadelphia, Vol. 83. Angolan Birds collected during the Gray African Expedition, 1929. By W. Wedgwood Bowen. Pp. 263-299. (Philadelphia.)

Transactions of the San Diego Society of Natural History. Vol. 6, No. 22: Descriptions of New Birds from the Mountains of Southern Nevada. By A. J. van Rossem. Pp. 325-332. (San Diego, Calif.)

Suomen Geologinen Toimikunta: Geologiska Kommissionen i Finland: Bulletin de la Commission Géologique de Finlande. No. 91: Pre-Quaternary Rocks of Finland; Explanatory Notes to accompany a General Geological Map of Finland. By J. J. Sederholm. Pp. 47, with Map. (Helsinki.) 30 Fmk.

Bulletin of the American Museum of Natural History. Vol. 59, Art. 7: Pleistocene Exploration and Fossil Edentates in Florida. By Walter W. Holmes and George Gaylord Simpson. Pp. 383-418. Vol. 61, Art. 7: South American Lizards in the Collection of the American Museum of Natural History. By Charles E. Burt and May Danheim Burt. Pp. 227-395. (New York City.)

State of Connecticut: State Geological and Natural History Survey. Vol. 9, Bulletins 48-48, 1928-1930. Pp. iii+100+168+32+97+294+94+95 plates. (Hartford, Conn.)

Japanese Journal of Physics. Transactions and Abstracts, Vol. 6, No. 1-2. Pp. v+15+32+3 plates. (Tokyo: National Research Council of Japan.)

Science Reports of the Tokyo Bunrika Daigaku. Section A, Nos. 7-12: On Vector Quantity, 2: Vector Quantity is Reducible from a kind of Probability, by Suminosuke Ono; On the Relative Intensities of the Balmer and Paschen Lines, by Uzumi Doi; Large Displacements in the Spectrum of Singly Ionized Oxygen, by Kwan-ichi Asagoe; Some Peculiar Types of the Secondary Lichtenberg Figures, by Kwai Umeda and Mitsuo Shōyama; On the Reversal-like Phenomena of the Balmer Lines of Hydrogen, by Hideo Nagashima; A Method of Laboratory Device to record the Period of a Pendulum Motion, by Mitsuo Shōyama. Pp. 86-147+plates 5-11. 90 sen. Section A, No. 13: On the Modulus of some Integral. By Ichiji Kakeya. Pp. 149-157. 15 sen. (Tokyo: Maruzen Co., Ltd.)

Zoologica: Scientific Contributions of the New York Zoological Society. Vol. 9, No. 13: Growth and Age in the Great Tortoise of the Galapagos. By Charles Haskins Townsend. Pp. 459-474. (New York City.)

Carnegie Institution of Washington. Publication No. 406: The Temple of the Warriors at Chichen Itza, Yucatan. By Earl H. Morris, Jean Charlot, Ann Axtell Morris. Vol. 1. Pp. xix+485. Vol. 2. Pp. viii+170 plates. (Washington, D.C.: Carnegie Institution.) 20 dollars.

CATALOGUES.

Catalogue of Fine Chemical Products for Laboratory Use; including Organic and Inorganic Chemicals, Analytical Reagents, Standard Stains, Indicators. (July 1931.) Pp. 132. B.D.H. Ureometer Outfit. Pp. 4. (London: The British Drug Houses, Ltd.)

Electro-Chemical Apparatus embodying Electro Analysis of Metals, Electrometric Determination of Hydrogen Ions, and Conductivity of Electrolytes. (List No. 80c.) Pp. 44. Catalogue of Surplus Stock Apparatus including Balances and Weights, Glassware (Graduated and Ordinary), Hardware, Metal and Porcelain Ware. (List No. 88 101H.) Pp. 20. (London: A. Gallenkamp and Co., Ltd.)

Diary of Societies.

FRIDAY, JULY 17.

INSTITUTION OF MUNICIPAL AND COUNTY ENGINEERS (South Midland District Meeting) (at Winchester Street, Acton), at 2.15.—W. G. Cross: Some Recent Works in Acton.—S. W. Slight: New Sewage Pumping Station.—H. Atkinson: New Works Depot.

TUESDAY, JULY 21.

ROYAL SOCIETY OF MEDICINE, at 5.30.—General Meeting. LONDON NATURAL HISTORY SOCIETY (at London School of Hygiene and Tropical Medicine), at 6.30.—Informal Meeting.

CONGRESSES.

JULY 17 TO 25.

BRITISH MEDICAL ASSOCIATION (at Eastbourne).

JULY 24 TO 30.

BRITISH COMMONWEALTH EDUCATION CONFERENCE (at Bedford College).—Subject: EDUCATION IN A CHANGING EMPIRE:—
Education in India.
Individual Education.
Modern Psychology in Education.
Examinations and Tests.

JULY 26 TO 31.

INTERNATIONAL CONGRESS ON RADIOLOGY (at Paris).

SUMMER MEETING.

JULY 18 TO 23.

INSTITUTION OF ELECTRICAL ENGINEERS (in Northern Italy and Western Switzerland).