

—Ph. Lasseur, A. Dupaix, and L. Georges: Remarks on the Boas phenomenon.—Georges Deflandre: The Archæmondaceæ, a new family of marine fossil protists with siliceous covering.—G. Delamare and C. Gatti: Spirochetes and intraleucocytary annular bodies.—J. Lignières: The variability of the pathogenic and immunising quality of the aphthous virus.—S. Nicolau and Mme. L. Kopciowska: The elective zone for the Negri bodies in rabbits dying of experimental hydrophobia with fixed virus.

WASHINGTON, D.C.

National Academy of Sciences (*Proc.*, vol. 18, No. 3, March 15).—A. Einstein and W. de Sitter: On the relation between the expansion and the mean density of the universe. The density derived on the assumption of zero curvature is of the right order of magnitude.—Marston T. Bogert and David Davidson: Azo derivatives of the pyrimidines.—L. F. Randolph: Some effects of high temperature on polyploidy and other variations in maize. The ear-shoot region was enclosed in a wire mesh cylinder and heated by an electrical heating pad to 38°-45° C. for a period of an hour at a time during the 48 hours beginning 27-30 hours after fertilisation. Among the effects observed were the doubling of entire chromosome sets, chromosomal deficiencies and translocations, direct morphological effects such as defective seedlings, and various deviations from the normal fertilisation process. It is suggested that since organisms in Nature are subjected to even higher temperatures than those used in the experiments, high temperatures may have played an important part in the natural production of variations.—Henry Margenau: Note on the quantum dynamical correction of the equation of state. A correction.—W. G. Penney: Effect of nuclear spin on the radiation excited by electron impact. No theory of polarisation of radiation excited by this means can be complete without taking into account nuclear spin. Calculations for mercury $\lambda 2537$ give results not in agreement with the experimental data available; the first order cross-section and approximate wave functions are not sufficiently accurate.—E. H. Kennard: Entropy, reversible processes, and thermo-couples. A discussion, with two examples, suggesting that the usual statement to the effect that a reversible process never changes the entropy of the universe is valid only when the process can be isolated completely from all other processes.—P. W. Bridgman: Comments on the note by E. H. Kennard on "Entropy, reversible processes, and thermo-couples".—Francis D. Murnaghan: On the field of values of a square matrix.—Aurel Wintner: Remarks on the ergodic theorem of Birkhoff.—E. B. Stouffer: A geometrical determination of the canonical quadric of Wilczynski.—B. O. Koopman and J. v. Neumann: Dynamical systems of continuous spectra.—J. v. Neumann: Physical applications of the ergodic hypothesis.—Edward Kasner: Complex geometry and relativity: theory of the 'rac' curvature. Rac curvature or 'rac' for a given curve is defined as the limiting ratio of arc to chord. For ordinary real curves rac equals unity, but for certain imaginary curves it has other values, the chief of which is $\frac{2}{3}\sqrt{2}$. In space of more than two dimensions, curves can be constructed such that it has any assigned value. In general, the rac curvature changes discontinuously if the point moves continuously along the curve or the curve is varied continuously.—Hassler Whitney: Regular families of curves (1).—G. D. Birkhoff and B. O. Koopman: Recent contributions to the ergodic theory.—J. Shohat and J. Sherman: On the numerators of the continued fraction

$$\frac{\lambda_1}{|x-c_1|} - \frac{\lambda_2}{|x-c_2|} - \dots$$

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Forthcoming Events

SATURDAY JULY 9

SOCIETY OF CHEMICAL INDUSTRY—South Wales Section (Special Joint Meeting with the South Wales Section of the Institute of Chemistry at the laboratories of the Cardiff Gas, Light and Coke Company, Bute Terrace, Cardiff), at 3 P.M.

WEDNESDAY, JULY 13

SOCIETY OF CHEMICAL INDUSTRY (Annual Meeting at Nottingham), at 10.15.—Prof. G. T. Morgan: "Ourselves and Kindred Societies" (Presidential Address).

THURSDAY, JULY 14

SOCIETY OF CHEMICAL INDUSTRY (Annual Meeting at Nottingham), at 10.—Sir William Pope: "Forty Years of Stereochemistry" (Messel Memorial Lecture).

INSTITUTION OF WELDING ENGINEERS (in conjunction with the Acetylene and Welding Consulting Bureau at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W.1).—Exhibition of a film dealing with practical applications of oxy-acetylene welding, at 2.30 P.M.

Official Publications Received

BRITISH

- Proceedings of the Linnean Society of London, Session 1931-32. Part 3. Pp. 57-72. (London: Linnean Society.) 6d.
Empire Cotton Growing Corporation. Report of the Eleventh Annual General Meeting. Pp. 18. (London.)
The Scientific Proceedings of the Royal Dublin Society. Vol. 20 (N.S.), No. 21: Report of the Irish Radium Committee for the Year 1931; including Reports by Oliver Chance, John A. Geraghty, Oswald J. Murphy, C. Conor O'Malley, Dr. Bethal Solomons, Sir Robert Woods. Pp. 249-266. (Dublin: Hodges, Figgis and Co.; London: Williams and Norgate, Ltd.) 1s. 6d.
The Institute of Chemistry of Great Britain and Ireland. Register of Fellows, Associates and Students, 1932. Pp. 396. (London: Institute of Chemistry.)
Commonwealth of Australia: Council for Scientific and Industrial Research. Pamphlet No. 25: Termites (White Ants) in South-eastern Australia; a Simple Method of Identification and a Discussion of their Damage in Timber and Forest Trees. By Gerald F. Hill. Pp. 28. Pamphlet No. 26: The Irrigation of Horticultural Community Settlements; Notes for the Guidance of Advisory Boards in Murray Valley Settlements. By A. V. Lyon. Pp. 22. (Melbourne: H. J. Green.)
Indian Central Cotton Committee: Technological Laboratory. Technological Bulletin, Series A, No. 20: Spinning Tests on Mixings of Long Staple and Short Staple Indian Cottons. By Dr. Nazir Ahmad. Pp. ii+21. (Bombay: The Times of India Press.) 1 rupee.
The National University Handbook, 1908-1932. Pp. xi+288+50 plates. (Dublin.)
British Non-Ferrous Metals Research Association. Twelfth Annual Report for the Year ending December 31st, 1931. Pp. 54. (London.)

FOREIGN

- Department of Agriculture: Straits Settlements and Federated Malay States. General Series, No. 8: Investigations on Coconuts and Coconut Products. By F. C. Cooke. Pp. x+99+9 plates. (Kuala Lumpur.) 1 dollar.
Philippine Earthquake Epicentres (1920 to 1929), South of Manila. By Rev. William C. Repetti. Pp. 35-52. (Manila: Bureau of Printing.)
Smithsonian Institution: United States National Museum. Bulletin 160: Mexican Tailless Amphibians in the United States National Museum. By Remington Kellogg. Pp. iv+224+1 plate. (Washington, D.C.: Government Printing Office.)
Japanese Journal of Geology and Geography. Transactions and Abstracts, Vol. 9, Nos. 3 and 4, March. Pp. 141-266+7-23+6. (Tokyo: National Research Council of Japan.)
U.S. Department of Commerce: Bureau of Standards. Research Paper No. 422: Accelerated Weathering Tests of Soldered and Tinned Sheet Copper. By Peter R. Kosting. Pp. 365-379+11 plates. (Washington, D.C.: Government Printing Office.)
Proceedings of the United States National Museum, Vol. 79, Art. 28: Revision of the Chalcid Flies of the Tribe Decatomini (Eurytomidae) in America north of Mexico. By W. V. Balduf. (No. 2894.) Pp. 95+4 plates. (Washington, D.C.: Government Printing Office.)
Spisy Lékařské Fakulty Masarykovy University (Publications de la Faculté de Médecine), Brno. Svazek 11, Spis 109-114. Pp. iii+18+26+76+46+42+158. (Brno: A. Piša.) 40 Kč.

CATALOGUES

- The Nickel Bulletin. Vol. 5, No. 6, June. Pp. 121-144. (London: The Mond Nickel Co., Ltd.)
Ornithology. (New Series, No. 28.) Pp. 56. (London: Wheldon and Wesley, Ltd.)
Books relating to America. (Catalogue 550.) Pp. 57. (London: Francis Edwards, Ltd.)
Astronomie. (Catalogue No. 133.) Pp. 160. (Paris: Hermann et Cie.)