

tion of the alkali metals by the electrolysis of the cyanides on a commercial basis.—J. Zawadzki and S. Bretznajder: The course of the reactions between calcium oxide and sulphur dioxide and calcium oxide and carbon dioxide.—J. Tokarski: New microscopic and chemical analyses of the phosphorites from Grodno (Poland).—J. Jarocki and Z. Raabe: Three new genera of Infusoria of the Hypocomidæ family (*Ciliata Thigmotricha*), parasites of fresh-water lamellibranchs.—J. Zacwilichowski: The innervation of the sense organs of the wings of insects (3).

## SYDNEY

Royal Society of New South Wales, Dec. 8.—M. B. Welch, F. A. Coombs, and W. McGlynn: Notes on wattle barks (3). An investigation has been made of the tannin content of the barks of the principal species of *Acacia* belonging to the so-called 'decurrens' group. Six species which can be recognised are described and a number of bark analyses are given. *A. mollissima* is the outstanding species with regard to tannin content, although *A. decurrens* and *A. Arundelliana* yield useful barks and may prove of value under conditions which are unfavourable to *A. mollissima*.—E. Cheel and M. B. Welch: A new species of wattle. The new wattle is closely related to the 'silver wattle' (*Acacia dealbata*), but has longer leaflets and not so many pairs of pinnae, and the whole leaf has a fern-like appearance, which has prompted the colloquial name 'fern-leaf wattle'. It has some resemblance to the 'tan-bark wattle' or so-called 'black wattle' (*Acacia mollissima*), but the 'fern-leaf wattle' flowers during July-August and has broad, flat pods, whereas the 'tan-bark wattle' flowers during November-December months and produces very narrow pods.—M. B. Welch: Notes on the shrinkage of wood. A list is given of the lateral and volumetric shrinkages, densities, etc., measured on a number of the more important woods in use in New South Wales.

## WASHINGTON, D.C.

National Academy of Sciences (*Proc.*, vol. 18, No. 2, Feb. 15).—Arnold Gesell: The developmental morphology of infant behaviour pattern (with a demonstration of methods of systematic cinematography). Twenty-five or more children were examined at lunar month intervals, from four to fifty-six weeks of age, written and cinematograph records being taken to describe posture, locomotion, prehension, and so on. An observation dome 12 ft. in diameter with a special crib at the universal focal area has been built at the Yale Clinic of Child Development; the dome is encased in a white painted wire screen, and when illuminated, the observers and cameras outside the screen are effectively concealed. Illustrative series from films taken are reproduced in the paper.—Alan W. C. Menzies and D. A. Lacoss: Allotropy of liquid benzene. The data of other workers show that the rate of change with temperature of several physical properties alters abruptly at about 40° C.—Wilder D. Bancroft and John W. Ackerman: The fading of lakes and dyed fabrics. An experimental investigation of the fastness of various dyes and mordants under different conditions.—A. Dorothy Bergner and A. F. Blakeslee: Cytology of the *ferox-quercifolia-stramonium* triangle in *Datura*. Differences of chromosome configuration have been found which are interpreted as due to segmental interchange.—G. W. Beadle: A possible influence of the spindle fibre on crossing-over in *Drosophila*. Evidence is found of interference in the immediate neighbourhood of the spindle fibre.—J. L. Walsh: An expansion of meromorphic functions.—A. J. Lotka: Contribution to the mathematical

theory of capture. (1) Conditions for capture. Consideration of a system comprising one prey species and one predatory species.—Edward V. Huntington: A new set of independent postulates for the algebra of logic with special reference to Whitehead and Russell's "Principia Mathematica".—D. V. Widder: Preliminary note on the inversion of the Laplace integral.—Francis D. Murnaghan: On the unitary invariants of a square matrix.—Tracy Yerkes Thomas: Conformal tensors (2).—Luther Pfahler Eisenhart: Intransitive groups of motions.—Solomon Lefschetz: On certain properties of separable spaces.—Eberhard Hopf: Complete transitivity and the ergodic principle.—Francis G. Benedict, Edward L. Fox, and V. Coropatchinsky: The incubating python: a temperature study. Sitting and broody hens were thought to have high temperatures; this has been disproved. Lamarre-Picquot claimed in 1832 that the python coils about her eggs to supply heat for their incubation. It has already been shown by Benedict and his collaborators that under ordinary conditions the body temperature of a snake is slightly below that of the environment. Similar studies on an incubating python show that its body temperature is about 3° C. above that of the environment. It is suggested that the incubating python is an intermediate stage between non-incubating reptiles and birds in the scale of evolution from cold- to warm-blooded animals.

## Forthcoming Events

## FRIDAY, JUNE 3

PHYSICAL SOCIETY OF LONDON AND OPTICAL SOCIETY (at Imperial College of Science and Technology), 2.30 to 5.30, and 7 to 9.30.—Joint Discussion on Vision.  
ROYAL SOCIETY OF ARTS (Indian Meeting), at 4.30.—Dr. J. H. Hutton: Census of India, 1931 (Lecture).  
ROYAL SOCIETY OF MEDICINE (Disease in Children Section), at 5.30.—Annual General Meeting.  
ROYAL INSTITUTION OF GREAT BRITAIN, at 9.—Prof. J. C. McLennan: Electrical Conductivity of Metals at the Lowest Temperatures.

## SATURDAY, JUNE 4

ROYAL OBSERVATORY, GREENWICH, at 3.30.—Annual Visitation.  
INSTITUTION OF ELECTRICAL ENGINEERS (London Students' Section).—Summer Outing to Southampton.

## MONDAY, JUNE 6

VICTORIA INSTITUTE (at Central Buildings, Westminster), at 4.30.—Sir Ambrose Fleming: Some Recent Scientific Discoveries and Theories (Presidential Annual Address).  
ROYAL INSTITUTION OF GREAT BRITAIN, at 5.—General Meeting.

## TUESDAY, JUNE 7

ROYAL COLLEGE OF PHYSICIANS OF LONDON, at 5.—Dr. J. W. McNee: The Liver and Spleen: their Clinical and Pathological Associations (Croonian Lectures) (2).  
ROYAL ANTHROPOLOGICAL INSTITUTE, at 8.30.—Prof. W. J. Sollas: The Sagittal Section of the Human Skull. Pt. II.: Palæanthropic Skulls (Lecture).  
INSTITUTE OF BRITISH FOUNDRYMEN (Annual Conference) (at Newcastle-upon-Tyne) (continued on June 8 to 10).

## WEDNESDAY, JUNE 8

GEOLOGICAL SOCIETY OF LONDON.—L. R. Wager: Geological Work in East Greenland during the British Arctic Air-Route Expedition, 1930-31 (Lecture).  
UNIVERSITY OF OXFORD (in University Museum).—Dr. R. A. Fisher: Social Selection of Human Fertility (Herbert Spencer Lecture).

## THURSDAY, JUNE 9

ROYAL COLLEGE OF PHYSICIANS OF LONDON, at 5.—Dr. J. W. McNee: The Liver and Spleen: their Clinical and Pathological Associations (Croonian Lectures) (3).

OPTICAL SOCIETY (at Imperial College of Science and Technology), at 7.30.—Annual General Meeting.  
CHELSEA PHYSIC GARDEN.—Dame Helen Gwynne Vaughan: The Contribution of Plants to the Study of Heredity (Chadwick Lecture).

FRIDAY, JUNE 10

ROYAL SOCIETY OF MEDICINE (Ophthalmology Section) (Annual General Meeting), at 5.—E. Clarke: Tay's Choroiditis.

ROYAL SOCIETY OF MEDICINE (Laryngology and Otolaryngology Sections) (at Eye and Ear Hospital, Portsmouth).—Summer Meeting (continued on June 11).

JUNE 16 TO 18

ANNUAL COLLOID SYMPOSIUM (at Ottawa, Canada).

## Official Publications Received

### BRITISH

Publications of the South African Institute for Medical Research. No. 30: Tuberculosis in South African Natives; with special reference to the Disease amongst the Mine Labourers on the Witwatersrand. Pp. 429+24 plates. (Johannesburg.)

Nyasaland Protectorate: Geological Survey Department. Colonial Development: Water Supply Investigation. Progress Report (No. 1) for the Year 1931. Pp. ii+27+5 plates. (Zomba.)

The British Mycological Society. Transactions. Edited by J. Ramsbottom, B. F. Barnes and H. Wormald. Vol. 16, Part 4, 2 May. Pp. 209-339. (London: Cambridge University Press.) 7s. 6d.

Air Ministry: Aeronautical Research Committee: Reports and Memoranda. No. 1431 (A. 106): Age-Hardening of Aluminium Alloys. By Dr. Marie L. V. Gayler and G. D. Preston. Pp. 19+5 plates. (London: H.M. Stationery Office.) 1s. 3d. net.

The Scottish Forestry Journal: being the Transactions of the Royal Scottish Forestry Society. Vol. 46, Part 1, March. Pp. xx+98+24. (Edinburgh: Douglas and Foulis.) 7s. 6d.

Proceedings of the Royal Society. Series A, Vol. 136, No. A829, May 2. Pp. 464. (London: Harrison and Sons, Ltd.) 28s. 6d.

List of the Linnean Society of London, 1931-1932. Pp. 71. (London: Linnean Society.)

Report of the National Baby Week Council, 1931, presented and adopted at the Fifteenth Annual Meeting of the National Baby Week Council held in London on the 16th March 1932. Pp. 24. (London.)

The Carnegie United Kingdom Trust. Eighteenth Annual Report (for the Year ending December 31st, 1931) approved by the Trustees on March 11th, 1932. Pp. ii+95+4 plates. (Dunfermline.)

Birmingham Bureau of Research on Russian Economic Conditions. Memorandum No. 5: i. Remarks on the Five Year Plan; ii. Agricultural Collectivization; iii. Oil Consumption and Export. Pp. 24. (Birmingham: The University.)

Transactions of the Optical Society. Vol. 33, 1931-32, No. 1. Pp. ii+36. (London: Optical Society.) 10s.

University Grants Committee. Returns from Universities and University Colleges in receipt of Treasury Grant, Academic Year 1930-31. Pp. 28. (London: H.M. Stationery Office.) 1s. 6d. net.

Journal of the Indian Institute of Science. Vol. 15B, Part 1: A New Permeameter. By K. V. Karantha. Pp. 16+14 plates. (Bangalore.) 1.8 rupees.

The Half-yearly Journal of the Mysore University. Vol. 5, No. 1, January. Pp. 190. (Bangalore: The Bangalore Press.) 2 rupees.

Bulletin of the Raffles Museum. No. 6, December 1931. Pp. 154. (Singapore: Raffles Museum.) 1 dollar; 2s. 6d.

Memoirs of the Queensland Museum. Vol. 10, Part 2, 30th March. Pp. 89-130. (Brisbane: Queensland Museum.)

Canada: Department of Mines: Geological Survey. Summary Report, 1930, Part D. (No. 2288.) Pp. 143D. Summary Report, 1931, Part B. (No. 2300.) Pp. 84B. Memoir 169: Geology and Mineral Deposits of a part of Southeastern Manitoba. By J. F. Wright. (No. 2296.) Pp. iii+150. 25 cents. (Ottawa: F. A. Acland.)

Dominion of Canada. Report of the Department of Mines for the Fiscal Year ending March 31, 1931. (No. 2297.) Pp. v+61. (Ottawa: F. A. Acland.) 25 cents.

Indian Journal of Physics. Vol. 6, Part 6, and Proceedings of the Indian Association for the Cultivation of Science, Vol. 15, Part 6. Conducted by Sir C. V. Raman. Pp. 467-606. (Calcutta.) 3 rupees; 4s.

The Institution of Professional Civil Servants. Annual Report of Council for the Year 1931. Pp. xiii+48. (London.)

Air Ministry: Aeronautical Research Committee: Reports and Memoranda. No. 1439 (E. 2298): Effects of Sideslip on Rolling and Yawing Moments. By F. B. Bradfield and A. S. Hartshorn. Pp. 4+10 plates. 6d. net. No. 1442 (I. 3171): Motions of a Stalled Bristol Fighter fitted with Auto-Control Slots and Interceptors. By A. Ormerod. Pp. 4+4 plates. 4d. net. No. 1435 (A. 17.64.88): Dimensional Stability of Heat-treated Aluminium Alloys. By J. D. Grogan and D. Clayton. Pp. 18+13 plates. 1s. net. (London: H.M. Stationery Office.)

Southern Rhodesia. Geological Survey Bulletin No. 19: Interim Report on the Geology of part of the Salisbury Gold Belt. By R. Tyndale-Biscoe. Pp. 89+4 plates. (Salisbury.) 2s.

Journal of the Society for the Preservation of the Fauna of the Empire. New Series, Part 16. Pp. 64. (Hertford: Stephen Austin and Sons, Ltd., 1932.) 2s.

The Proceedings of the Physical Society. Vol. 44, Part 3, No. 243, May 1. Pp. viii+231-438. (London: Physical Society.) 7s. net.

The Rhodesian Museum, Bulawayo. Thirtieth Annual Report, 1931. Pp. 15. (Bulawayo.)

Northern Naturalists' Union. Transactions. Edited by Dr. F. C. Garrett. Vol. 1, Part 1. Pp. 77. (Newcastle-on-Tyne: Andrew Reid and Co., Ltd.) 4s.

Proceedings of the Royal Society of Edinburgh, Session 1931-1932. Vol. 52, Part 2, No. 8: On the Structure of Vertebraria. By Prof. John Walton and Miss Jessie A. R. Wilson. Pp. 200-207+2 plates. 1s. 3d. Vol. 52, Part 2, No. 9: Graphical Analysis of Internal Combustion Engine Indicator Diagrams. By Alex. R. Horne. Pp. 208-217. 9d. Vol. 52, Part 2, No. 10: The Pigmentary System and the Dopa Reaction. By Evelyn Boyd. Pp. 218-235+4 plates. 2s. 6d. Vol. 52, Part 2, No. 11: The Zeta Function of Jacobi. By L. M. Milne-Thomson. Pp. 236-250. 1s. 3d. (Edinburgh: Robert Grant and Son; London: Williams and Norgate, Ltd.)

The Journal of the Institution of Electrical Engineers. Edited by P. F. Rowell. Vol. 70, No. 425, May. Pp. 477-588+ xviii. (London: E. and F. N. Spon, Ltd.) 10s. 6d.

Proceedings of the University of Durham Philosophical Society. Vol. 8, Part 5, 1931-1932, February. Pp. iii+359-467+vi. (Durham.) 5s.

Royal Observatory, Edinburgh. Forty-second Annual Report of the Astronomer Royal for Scotland, 1932. Pp. 7. (Edinburgh and London: H.M. Stationery Office.) 2d. net.

### FOREIGN

Bell Telephone System. Technical Publications, Monograph B-656: Modern Developments in Precision Clocks. By Alfred L. Loomis and W. A. Marrison. Pp. 30. (New York: Bell Telephone Laboratories.)

University of Denver: Department of Anthropology. Archaeological Survey of Eastern Colorado, Second Report. By E. B. Renaud. Pp. 45. (Denver, Colo.)

Conseil Permanent International pour l'Exploration de la Mer. Journal du Conseil. Vol. 7, No. 1. Rédigé par E. S. Russell. Pp. 165. (Copenhague: Andr. Fred. Høst et fils.) 4.50 kr.

Conseil International de Recherches. Union Géodésique et Géophysique Internationale: Section de Séismologie. Publications du Bureau Central Séismologique International. Série A, Travaux scientifiques, Fascicule No. 7: Communications présentées à la Conférence de Stockholm (Août 1930). Pp. 128+14 planches. (Strasbourg.)

U.S. Department of Agriculture. Technical Bulletin No. 291: The Effect of Air Drying on the Hydrogen-Ion Concentration of the Soils of the United States and Canada. By Ernest H. Bailey. Pp. 44. (Washington, D.C.: Government Printing Office.) 10 cents.

Smithsonian Institution. Explorations and Field-Work of the Smithsonian Institution in 1931. (Publication 3134.) Pp. iv+190. (Washington, D.C.: Smithsonian Institution.)

Library of Congress. A List of American Doctoral Dissertations printed in 1930. Prepared by Mary Wilson MacNair. Pp. vii+342. (Washington, D.C.: Government Printing Office.)

The Science Reports of the Tôhoku Imperial University, Sendai, Japan. Second Series (Geology). Vol. 15, No. 2. Pp. 41-168+plates 5-10. (Tokyo and Sendai: Maruzen Co., Ltd.)

Journal of Science of the Hiroshima University. Series A (Mathematics, Physics, Chemistry). Vol. 2, No. 2. Pp. 103-158. 72 sen. Series B, Div. 1 (Zoology). Vol. 1, Articles 6-9. Pp. 65-168. 1.85 yen. Series B, Div. 2 (Botany). Vol. 1, Article 4: Studies on the Hepaticae of Japan, V. By Yoshiwo Horikawa. Pp. 55-76+plates 7-9. 41 sen. Vol. 1, Articles 5-9. Pp. 77-134+plates 10-16. 1.06 yen. (Hiroshima.)

Collection des travaux chimiques de Tchécoslovaquie. Rédigée et publiée par E. Votoček et J. Heyrovský. Année 4, No. 4, Avril. Pp. 148-192. (Prague: Regia Societas Scientiarum Bohemica.)

Proceedings of the Imperial Academy. Vol. 8, No. 3, March. Pp. v-vi+59-112. (Tokyo.)

Acta Photochimica. Edited by Prof. Ketta Shibata. Vol. 6, No. 1, April. Pp. 178. (Tokyo: Iwata Institute of Plant Biochemistry.) 3.50 yen; 1.70 dollars.

U.S. Department of Commerce: Coast and Geodetic Survey. Serial 540: Magnetic Declination in the United States, 1930. By Daniel L. Hazard. Pp. 41. (Washington, D.C.: Government Printing Office.) 10 cents.

Proceedings of the United States National Museum. Vol. 80, Art. 15: The Copepod Crustaceans of Chesapeake Bay. By Charles Branch Wilson. (No. 2915.) Pp. 54+5 plates. (Washington, D.C.: Government Printing Office.)

Proceedings of the American Philosophical Society. Vol. 71, No. 2. Pp. 39-71. (Philadelphia.)

Annales de l'Observatoire de Paris, Section d'Astrophysique, à Meudon. Publiées par Ernest Esclagon. Tome 6: Cartes synoptiques de la chromosphère solaire et catalogue des filaments de la couche supérieure. Par L. d'Azambuja. Fascicule 5: Années 1925, 1926, 1927. Pp. 88. (Meudon.)

Japanese Journal of Mathematics. Transactions and Abstracts, Vol. 8 (1931) (concluded). Pp. 237-326+27. (Tokyo: National Research Council of Japan.)

Koninklijk Nederlandsch Meteorologische Instituut. No. 106a: Ergebnisse aerologischer Beobachtungen, 19, 1930. Pp. iv+44. 2.50 f. No. 108: Seismische Registrierungen in De Bilt, 17, 1929. Pp. ix+74. 1.20 f. No. 110: Oceanographische en meteorologische Waarnemingen in den Atlantischen Oceaan, September, October, November (1870-1925). Kaarten. Pp. ii+34. 7.50 f. (Amsterdam: Seyffardt's Boekhandel.)

Unione Astronomica Internazionale. Immagini spettroscopiche del bordo solare osservate a Catania, Madrid e Zurigo negli anni 1927 e 1928. Pubblicata per Cura del R. Osservatorio Astrofisico di Arcetri. Pp. 12+21 tavole. (Firenze: R. Osservatorio Astrofisico di Arcetri.)

Pubblicazioni della R. Università degli Studi di Firenze. Fascicolo N. 48: Osservazioni e memorie del R. Osservatorio Astrofisico di Arcetri. Pp. 63. Fascicolo N. 49: Osservazioni e memorie del R. Osservatorio Astrofisico di Arcetri. Pp. 69. (Firenze.)

Zentralanstalt für Meteorologie und Geodynamik. Publikation Nr. 137: Beihefte zu den Jahrbüchern der Zentralanstalt für Meteorologie und Geodynamik. Erstes Heft der Reihe, Beiheft zu Jahrgang 1928 der Jahrbücher. Pp. ii+117. (Wien: Gerold und Ko.)

U.S. Department of Commerce: Bureau of Standards. Bureau of Standards Journal of Research. Vol. 8, No. 4, April, Research Papers No. 427-433. Pp. 445-547. (Washington, D.C.: Government Printing Office.) 40 cents.