

Calendar of Geographical Exploration

May 18 (or 20), 1499.—Amerigo Vespucci

Alonso de Ojeda sailed from Cadiz, with Amerigo Vespucci on board one of his vessels. Vespucci was a contractor for ship's provisions, and did not, apparently, go to sea until he was more than forty years of age. He claimed to have made four voyages to the New World, in 1497, 1499, 1501, and 1503. The first and third voyages are rejected by many, but not all, students. However this may be, there is no doubt that Vespucci went with Ojeda on his voyage, though the two men were not on the same boat, Ojeda reaching the coast of America near Surinam and proceeding to Maracaibo, while Vespucci reached it in 5° S., roughly. In his third voyage, Vespucci claims to have sailed along the east coast of South America from 5° to 50° S., a voyage which, if genuine, gives him a high place in exploration. According to Vespucci's own statement, he had on his first voyage reached the mainland on June 16, 1497, namely, 8 days before John Cabot. The name America appears to have resulted from a copy of Vespucci's letter about this voyage reaching the professor of cosmography at St. Dié University (Lorraine), who suggested in his "Cosmographia Introductio" (1507) that the newly discovered land should be called "America, because Americus discovered it".

May 19, 1845.—Sir John Franklin

Sir John Franklin left England for Cape Walker, whence he hoped to reach Bering Strait. He wintered on Beechey Island, and next summer proceeded southward down Peel Sound, spending the second winter in 70° 5' N., 98° 23' W., on the pack ice, where the ships were held fast all through the summer of 1847. Franklin died on June 11, 1847: the party deserted the ships in April 1848, and tried to penetrate south by land, but all perished. The numerous parties organised to try to obtain information about Franklin's fate resulted in great additions to geographical knowledge of the American arctic. News of Franklin's fate was first obtained from Eskimo in 1851; and in 1859, Hobson, a member of M'Clintock's expedition, found a sheet of paper on King William Island recording briefly what had happened up to the attempt to escape overland. Franklin's first arctic voyage was undertaken in 1818, when he was in charge of one of the vessels in Buchan's expedition. In 1819 he was leader of an expedition which resulted in the charting of much of the unknown coast-line of North America and occupied three years. This and a further journey in 1826 added 1200 miles of coast-line to the map of arctic America. From 1836 until 1843 he was lieutenant-governor of Tasmania (van Diemen's Land). Renewed interest in the polar regions at the time of his return to England led to his last and tragic journey.

Societies and Academies

LONDON

Royal Society, May 5.—A. V. Hill: A closer analysis of the heat production of nerve. The heat production of nerve is believed to occur in two phases, 'initial' and 'recovery': the former is presumably an accompaniment of the physical and chemical changes which take place during the propagation of the impulse; the latter, of the processes by which those changes are reversed and the nerve restored to its initial state. It is not easy to separate the one from the other. The possibility that the initial heat is due to phosphagen

breakdown or lactic acid formation is discussed: the quantities available are sufficient.—H. E. Roaf: The influence of coloured surrounds and coloured backgrounds on visual thresholds. Exposure of the retina to light raises the differential threshold. For the fovea, the chief influence in raising the threshold is the simultaneous exposure to light, and for the parts of the retina outside the fovea there is considerable spread of effect from one part of the retina to another. The influence of wave-length on the results is very striking with foveal vision, as 'red' light raises the threshold for all parts of the spectrum, but 'green' and 'blue' lights have a negligible effect on the long wave-length end of the spectrum.—N. Gavrilescu, A. P. Meiklejohn, R. Passmore, and R. A. Peters: Carbohydrate metabolism in birds. The site of the biochemical lesion in avian polyneuritis. Oxygen uptakes of normal and avitaminous brains have been measured. The results suggest that vitamin B₁ deficiency is connected essentially with the intermediary metabolism of carbohydrate.

Geological Society, March 23.—William S. Boulton: The rocks between the Carboniferous and Trias in the Birmingham district. The succession at Windsor Street Gas Works in east Birmingham is continuous to a depth of more than 1000 feet, and includes the Bunter (with a basal breccia), the Nechells breccia, and part of the calcareous conglomerate group. The content of the breccias and conglomerates was described, and a graph was given showing the percentage distribution of rock types at different depths. The heavy mineral residues of the associated sandstones have also been determined. The Barr Beacon beds underlying the Bunter Pebble beds, mapped by the Geological Survey as Hopwas breccia, are of Bunter age, and with them were correlated the breccias at Tower Hill, near Hamstead, and also the more extensive beds of sand-rock at the base of the Bunter of Cannock Chase. The breccias of Hopwas, Sutton Park, Warley, Northfield, and the Lickey, though discontinuous deposits, are of the same general age, and have all been derived from highlands to the immediate east and south, the outcrops of which mainly consisted of Uriconian felsite- and andesite-tuffs and lavas, and basalts. Extensive and prolonged erosion accompanied and followed the Hercynian earth-movements in the area.

LEEDS

Philosophical and Literary Society, March 1.—E. C. Stoner: The correlation of the gyromagnetic ratio and the magnetic moment of paramagnetic salts. The observed magnetic moments and gyromagnetic ratios are compatible with each other, and may be accounted for by considering the interaction between the spin and orbital moments of one ion and the interaction of the ion with its surroundings.—G. W. Brindley: On the refraction of X-rays by perfect crystals. If the *atomformfaktor* f is incorporated in Ewald's treatment of the reflection of X-rays by perfect crystals in the way suggested by Darwin's earlier treatment of the subject, then the refractive indices of calcite for X-rays calculated from the observed widths of reflections are in good agreement with values obtained in other ways. The agreement is not good if the *atomformfaktor* is omitted.—E. C. Pollard: Nature of the potential barrier of the nitrogen nucleus. Experiments have been carried out on the variation of the yield of protons produced by fast α -particles from nitrogen as the energy of the impinging particle is reduced; the aim being to determine whether the α -particle enters the nucleus by resonance or by scaling the potential barrier. The results appear to show that resonance does not occur; entry is over the

top, and an approximate estimate of the height of the nuclear barrier is given.—H. M. Dawson and W. Lowson: The catalytic effect of acids on the rate of ester hydrolysis in relation to the ester concentration and the nature of the acid. The nature of the process which is involved in the acid catalysed hydrolysis of ethyl acetate is discussed and consideration given to the conditions under which the velocity of the reaction may be used as a measure of hydrogen ion concentration. A comparison of the catalytic effects produced by hydrochloric, chloro-acetic, glycolic, and acetic acids at ester concentrations ranging from 10 c.c. to 60 c.c. ester per litre shows that the ionisation constants of the weak acids decrease continuously as the ester concentration increases. Extrapolation to zero ester concentration is necessary if strictly comparable values are to be obtained.—C. H. Douglas Clark: Spectroscopy and valency. (1) The periodic groups of atoms and ions. The classification previously proposed for atoms in ground states has been extended to the rare earth elements, to inert gas-like ions, and to ions of transition elements. The electron groups s^2 , p^6 , d^{10} , and f^{14} tend to show central symmetry in respect of electron spins in ground states, with maximum valencies and maximum possibility of variable valencies near the centres of the groups, whilst departures from central symmetry are accompanied by the appearance of irregularities in valency. Such departures afford interpretation of the anomalous valencies of transition elements. The evidence of ionisation serves to confirm the views put forward.—N. Gill: The phloem of ash, *Fraxinus excelsior* Linn., its differentiation and seasonal variation. Production of large sieve tubes, each usually having a single companion cell in transverse section, begins in spring and continues throughout the summer, being most vigorous when the leaves are fully expanded. Just before leaf fall a modified type of sieve tube is produced, and is characterised by a smaller transverse area and a larger proportion of cambiform companion cells. No further phloem is produced after leaf fall until the following spring.

PARIS

Academy of Sciences, March 29.—A. Buhl: New integral invariances connected with differential equations containing several parameters.—Emile Sevin: Concerning the energy of matter.—Nicolas Kryloff and Nicolas Bogoliuboff: The phenomena of demultiplication of frequency in radiotechnics.—G. Reboul: A particular mode of activation of matter.—René Audubert and Mlle. Cécile Stora: The photovoltaic properties of cadmium sulphide. The sensibility of cadmium sulphide with regard to various radiations of the visible spectrum has been determined, and the results given graphically. If photo-electronic phenomena intervene, they play only a secondary part.—Maurice Billy and Mlle. Irène San-Galli: A new method of investigation for the study of the hydrated peroxides.—C. T. Popesco: The effects of a new system of grafting in *Lycium vulgare* placed on the tomato.—Mlle. Odette Tuzet: The centrioles of the egg of the sea urchin, *Paracentrotus lividus*.—Victor-Pauchet and A. Bécart: The gastro-photographic method and its automatic means of control.

GENEVA

Society of Physics and Natural History, Feb. 4.—Arnold Pictet: Inheritance of polydactyly in the guinea-pig. Polydactyly arises from the union of two parents of a polydactyl strain. One of the parents contributes a factor of intensity, the other a factor of intensity in the heterozygote state: together they contribute an additional common factor, the com-

binations of these three factors being indispensable for the creation of polydactyly. The polydactyls thus created may produce normal types indefinitely and the normal types produce polydactyls indefinitely.—Charles Jung: The calculation of the ureo-secretory coefficient considering the two kidneys separately. The author shows that when the two kidneys work at different concentrations the ureo-secretory coefficient calculated from the total urine is incorrect. He gives an example where the error amounts to 13.8 per cent of the whole, calculated by adding the partial yields.—A. Schidlof and H. Saini: An attempt at a theory of emission of the β -rays by radioactive nuclei. The new interpretation of the authors gives an explanation of the analogy which exists between the α -rays and the β -rays, and makes clear the cause of the difference between the two classes of radiations.—P. Dive and R. Wavre: The Newtonian potential and multimform functions. The authors show in a very curious example the precautions which should be taken when prolonging analytically an ordinary potential, according to the nature of the topological data.—Léon Collet and Ed. Paréjas: Results of the geological expedition of Harvard University in the Canadian Rockies (Jasper National Park), 1929. (4) The geological section along Mural Glacier and the thrust plane of the Mumm Peak nappe. The authors give the detailed succession of the terranes along Mural Glacier and determine the thrust plane of the Mumm Peak nappe on both sides of the glacier. Owing to this overthrust, Lower Cambrian with *Olenellus* overrides Upper Cambrian.—(5) The geological section between Mount Robson and Moose Pass. The authors present the first complete geological section between Mount Robson and Moose Pass. On this section the thrust plane of the Mumm Peak nappe passes between the Chetang Ridge and the Tatei Ridge. Few corrections have to be made to Walcott's section of Mount Robson.

WASHINGTON, D.C.

National Academy of Sciences (*Proc.*, 18, No. 1, Jan. 15).—Charles P. Winsor: The Gompertz curve as a growth curve. Benjamin Gompertz's curve (*Phil. Trans.*, 1825) is compared with the logistic curve; the former seems to give a good fit with material showing an inflection when about 37 per cent of total growth is completed, whereas the latter has its point of inflection about midway between the asymptotes.—Wilder D. Bancroft, Robert S. Gutsell, and John E. Rutzler, jr.: Reversible coagulation in living tissue (10). Morphine was withdrawn gradually from a drug addict of long-standing, giving large doses of sodium rhodanate. There were no major withdrawal symptoms. The sodium salt rapidly peptises protein colloids agglomerated by morphine, and also seems to assist in eliminating morphine from the tissue.—Harlow Shapley, Ernst J. Opik, and Samuel L. Boothroyd: The Arizona expedition for the study of meteors. The equipment consists of two huts, on the opposite slopes of the roofs of which are iron reticules to provide co-ordinates of reference for visual observations. The huts are 23 miles apart on an east-west line. Telescopic observations are being made at two stations 2 miles apart. Angular velocities are being observed by a 'double-pendulum apparatus' consisting of an oscillating plate-glass mirror.—Howard Sprague Reed: The growth of *Scenedesmus acutus*. Growth of this alga followed the sigmoid curve of autocatalysis except for an initial lag.—H. E. Dolk and K. V. Thimann: Studies on the growth hormone of plants (1). The technique of preparing this hormone in quantity from mold cultures is described. Its activity was tested on the

coleoptiles of oats and a unit is suggested. The hormone appears to be an acid which is readily oxidised. A method of purification is described.—**Warren W. Wilcox**: The basis of the dependence of visual acuity on illumination. Acuity was measured by observing the separation of two parallel bars. For bright bars on a dark ground, acuity first falls with increased illumination, passes through a minimum and then rises. For dark bars on a bright background, acuity decreases with increasing illumination, the rate of decrease becoming progressively less. It is concluded that irradiation, or apparent shift of contours, is the only cause of the variations of visual acuity with intensity; Hecht's theory of a variation in the number of functional retinal elements is unnecessary.—**Henry Margenau**: Quantum dynamical correction for the equation of state of real gases. London has suggested that the deviations of light gases such as hydrogen and helium from the perfect gas law may be due to the existence of zero point energy associated with the vibratory motion of molecules in quantised collision states rendering the attractive Van der Waals' forces partially ineffective. This problem is investigated quantitatively.—**William Duane**: New lines in the K -series of X-rays.—**Hassler Whitney**: Note on Perron's solution of the Dirichlet problem.—**J. v. Neumann**: Proof of the quasi-ergodic hypothesis.—**Jesse Douglas**: Seven theorems in the problem of Plateau.—**A. W. Tucker**: On combinatorial topology.—**W. Seidel and S. B. Littauer**: Lines of Julia of integral functions.—**Eberhard Hopf**: On the time average theorem in dynamics.—**G. A. Miller**: Sets of distinct group operators involving all the products but not all the squares.—**Tracy Yerkes Thomas**: Conformal tensors (1).—**D. V. Widder**: On the changes of sign of the derivatives of a function defined by a Laplace integral.—**Arthur L. Fox**: The relationship between chemical constitution and taste. Phenyl thio carbamide and related substances are bitter in taste to some people and not to others. The taste of these compounds is associated with a C=S linkage (see also *NATURE*, 128, 124, July 18, 1931).—**Albert F. Blakeslee**: Genetics of sensory thresholds: taste for phenyl thio carbamide. Inability to taste this compound is inherited as a Mendelian recessive. From experiments using different strengths of solutions, it was found that innate differences exist as regards threshold value, the strength of the sensory reactions, and the ability to detect differences of concentration and to discriminate between different substances.—**Harold H. Plough**: Elimination of self-sterility in the *Styela* egg—a reinterpretation with further experiments. The author stated in an earlier paper that self-sterility was eliminated due to the addition of ammonia or caustic soda to sea-water containing the eggs. This is incorrect; the effective factor is time. On standing in sea-water, eggs and sperm undergo a spontaneous change which removes the block to self-fertilisation.—**T. Cunliffe Barnes**: The physiological effect of trihydrol in water. Water containing large quantities of the trihydrol form of water causes much increased rate of growth of *Spirogyra*; it is suggested that the colloidal trihydrol aggregates are the first steps in the formation of carbohydrates (see also *NATURE*, 129, 691, May 7, 1932).

VIENNA

Academy of Sciences, Jan. 28.—**Otto Porsch**: The bat-flower problem. A number of species are added to the list of flowers fertilised by bats.—**Adolf Franke, Alfred Kroupa, and Theodora Panzer**: Ring contraction in the formation of internal ethers (oxides) from glycols. In continuation of the investigation of the action of sulphuric acid on higher glycols, it is found that tetradecan-1:14-diol also yields an internal

ether, 1:5-oxidotetradecane.—**Robert Sandri**: Diffusion and transport of gases in liquids. (2) Diffusion of hydrogen through colloidal and liquid membranes. When a narrow gas-filled tube is closed at one end with a long drop of water and at the other with a thin membrane (rubber), diffusion of the gas and air through the membrane forces the water in one direction or the other. Quantitative investigation of this phenomenon yields results in approximate agreement with Fick's theory of diffusion and with Henry's law.—**Wilhelm Petraschek**: Comparative studies of deposits—the magnesites and siderites of the Alps.—**Alexander Tornquist**: An ore-deposit of the Raibl-Bleiberg type in the Dolomites.—**Leopold Kölbl**: The north-east end of the Grossvenedig mountain group.—**K. Graff**: Night measurements of the transmissivity coefficients of the atmosphere in Mallorca in winter. Determinations of the transparency coefficient of the atmosphere at night by measuring the brightness of stars at different distances from the zenith yielded surprisingly high values, 23 out of 38 exceeding 0.85, or, allowing for the barometric height, 0.881. These values are distinctly greater than those obtained in Sântis and Etna, which are both between 2500 metres and 3000 metres above sea-level.—**K. Graff**: Distribution of brightness in the sky at full moon. Except in the immediate neighbourhood of the full moon, the relative brightness of the night sky was found to vary only from 1 at the zenith to 0.4 in the polar region.—**Michael Radakovic**: Raman effect. (17) The possible distributions of forces in the mechanical model of a triatomic molecule.—**Rudolf Scharfetter**: Vegetational relationships of the Gerlitzen in Carinthia.—**Viktor Lebzelter**: Individual growth in the Koisan race group.—**Josef Hoffmann**: Behaviour of alkali glasses containing chlorine, fluorine, and sulphate ions, and of manganese glasses, with and without iron, towards β - and γ -radiation. Experimental results confirm the previous conclusion that, with silicate glasses, blue and violet radiation colours are not produced by alkali metal atoms. In manganese glasses, red radiation colours are attributable to Mn^{+++} ions and violet colours to the simultaneous presence of Mn^{+++} and Mn^{++} ions. The latter alone give no colour, but in combination with iron a grey colour.—**Karl Prziabram**: An empirical rule concerning the behaviour of certain plastic bodies towards pressure.—**Stefan Meyer**: Proton numbers, atomic numbers, and range of α -radiators. The range of α -radiators is given approximately by the expression, $\log R_0 = \log D + 0.60 - 0.043(P - 223)$, where P is the proton number and D is a function of the atomic number which varies periodically with the cube-root of the reciprocal atomic volume. A property of the nucleus, apparently connected with the periodic behaviour of the shell electrons, is also deduced.

Feb. 4.—**Anton Schedler and Max Toperczer**: Distribution of the geomagnetic declination in Austria at the epoch 1930.0.—**Max Toperczer**: The measurement of the magnetic declination with magnets suspended by threads. The corrections rendered necessary in applying this method of measuring magnetic declination, owing to the influence of torsion in combination with the imperfect character of the suspension, are considered. Measurements with two magnets being only just sufficient to eliminate the disturbing influences, the use of a greater number (at least three) of magnets is proposed.—**A. Dadiou, K. W. F. Kohlrusch, and A. Pongratz**: Studies on the Raman effect. (18) Raman spectrum of organic substances (polysubstituted benzenes) (1). Experiments with the six isomeric xylidines and xylenols show that the spectral type is determined by the position of the substituents and not by their nature. The spectra

may be classified in three groups according to the positions of the radicles introduced: (1) symmetrical, 1:3:5; (2) vicinal, 1:2:6 or 1:2:3, and (3) unsymmetrical. Only in case (1) does the principal benzene line ($\Delta\nu=990$) appear with marked intensity, and as the symmetry of the nucleus vibration with the 1:3:5-compound can be only trigonal, it is concluded that the symmetry of the ring itself is also trigonal.—Alfred Brukl and Bruno Hahn: The heteropoly-acids of germanium.

Forthcoming Events

FRIDAY, MAY 13

- ROYAL ANTHROPOLOGICAL INSTITUTE (Sociological Research Committee), at 5.30.—J. H. Driberg: Economic Stages of Development in Africa.
 ROYAL SOCIETY OF MEDICINE (Clinical Section), at 5.30.—Annual General Meeting.
 BRITISH ASSOCIATION OF CHEMISTS (London Section) (at Broad Street Station Restaurant, E.C.), at 7.—Annual General Meeting.
 INSTITUTION OF ELECTRICAL ENGINEERS (Scottish Centre) (at Cowdray Hall, Aberdeen), at 7.30.—Prof. J. K. Catterson-Smith: Everyday Uses of Electricity (Faraday Lecture).
 ROYAL INSTITUTION OF GREAT BRITAIN, at 9.—Sir John C. W. Reith: Broadcasting.
 INTERNATIONAL COMMITTEE ON THE HISTORY OF SCIENCE (at Paris) (continued on May 14 to 16).

SATURDAY, MAY 14

- ASSOCIATION OF TEACHERS IN TECHNICAL INSTITUTIONS (Annual Conference) (at Technical College, Cardiff) (continued on May 15 to 17).

TUESDAY, MAY 17

- ROYAL SOCIETY OF MEDICINE, at 5.—Special Meeting of Fellows.
 KING'S COLLEGE, LONDON, at 5.30.—Prof. M. Schlick: Form and Content. (Succeeding Lectures on May 18 and 20.)
 IRON AND STEEL INSTITUTE (Additional Meeting) (at Royal Metal Exchange, Swansea), at 6.—Presentation of Papers.

WEDNESDAY, MAY 18

- NATIONAL INSTITUTE OF INDUSTRIAL PSYCHOLOGY (at London School of Economics), at 5.30.—Dr. C. S. Myers: Psychological and Social Factors in Business Rationalisation (3): The Advantages of Rationalisation.
 INSTITUTION OF WATER ENGINEERS (at Sheffield).—Summer General Meeting (continued at Buxton, May 19 to 21).

THURSDAY, MAY 19

- UNIVERSITY COLLEGE, at 2.30.—Sir Flinders Petrie: Canaanite Civilisation (to be repeated on May 21, at 3, and on May 24, at 5.30).
 LONDON MATHEMATICAL SOCIETY (at Royal Astronomical Society), at 5.—Prof. H. Levy: A Numerical Study of Differential Equations (Lecture).
 ROYAL SOCIETY OF MEDICINE (Dermatology Section), at 5.—Annual General Meeting.
 LIVERPOOL BIOLOGICAL SOCIETY (in Zoology Department, Liverpool University), at 5.30.—Mrs. C. S. Hodson: Biological Advances and Eugenics (Lecture).
 UNIVERSITY COLLEGE, at 5.30.—Dr. C. S. Myers: The Absurdity of any Mind-Body Relation (Hobhouse Memorial Lecture).
 CHEMICAL SOCIETY, at 8.—Discussion on Some Aspects of Asymmetric Synthesis.
 ROYAL SOCIETY OF MEDICINE (Neurology Section), at 8.—Annual General Meeting.
 BRITISH INSTITUTE OF RADIOLOGY (Annual General Meeting), at 8.—Dr. J. C. Mottram: On the Relationship of Beta and Gamma Radiation in the Treatment of Tumours; The Action of Radium on Blood Supply—The White Reaction.

GERMAN OPHTHALMOLOGICAL SOCIETY (at Leipzig) (continued on May 20 and 21).

CONGRESS OF INTERNATIONAL ASSOCIATION FOR BRIDGE AND STRUCTURAL ENGINEERING (at Paris) (continued on May 20 to 25).

FRIDAY, MAY 20

- ROYAL SOCIETY OF MEDICINE (Physical Medicine Section), at 5.30.—Annual General Meeting.
 ROYAL SOCIETY OF MEDICINE (Radiology Section), at 8.30.—Annual General Meeting.
 ROYAL INSTITUTION OF GREAT BRITAIN, at 9.—Prof. H. E. Armstrong: Faraday at the Sign of the Hexagon: Coal Colour and Constitution.
 INSTITUTION OF ELECTRICAL ENGINEERS (Western Centre) (at Sedbury, Monmouthshire).—Summer Meeting (continued on May 21 to 23).

SATURDAY, MAY 21

- INSTITUTION OF ELECTRICAL ENGINEERS (Irish Centre—Dublin) (at Trinity College, Dublin), at 7.45.—Annual General Meeting.
 GERMAN CONGRESS FOR PSYCHICAL HYGIENE (at Bonn).

Official Publications Received

BRITISH

- The Scientific Proceedings of the Royal Dublin Society. Vol. 20 (N.S.), No. 17: Report on the Recent Bog-Flow at Glencullin, Co. Mayo. By A. D. Delap, A. Farrington, R. Lloyd Praeger and Louis B. Smyth. Pp. 181-192. 1s. Vol. 20 (N.S.), No. 19: Electrical Properties of Oil-Water Emulsions, with special reference to the Structure of the Plasmatic Membrane, II. By Prof. Henry H. Dixon and Dr. T. A. Bennet-Clark. Pp. 211-226. 1s. (Dublin: Hodges, Figgis and Co.; London: Williams and Norgate, Ltd.)
 Agricultural Progress: the Journal of the Agricultural Education Association. Vol. 9, 1932. Pp. 184. (Cambridge: W. Heffer and Sons, Ltd.) 5s. net.
 Seale-Hayne Agricultural College: Department of Plant Pathology. Eighth Annual Report for the Year ending September 30th, 1931. (Pamphlet No. 37.) Pp. 25. (Newton Abbot.)
 Journal of the Indian Institute of Science. Vol. 15A, Part 1: Salt Stains on South Indian Hides and Skins. By V. N. Patwardhan and M. Subramania Sastry. Pp. 8+1 plate. (Bangalore.) 12 annas.
 India: Meteorological Department. Winds, Weather and Currents on the Coasts of India and the Laws of Storms. Pp. iii+51+18 plates. (Calcutta: Government of India Central Publication Branch.) 2.6 rupees; 4s. 6d.
 Commonwealth of Australia: Council for Scientific and Industrial Research. Bulletin No. 57: Infectious Exterotoxaemia (The So-called Braxy-like Disease) of Sheep in Western Australia. By H. W. Bennetts. Pp. 72. (Melbourne: H. J. Green.)

FOREIGN

- University of California Publications in American Archaeology and Ethnology. Vol. 33, No. 1: The Western Kuksu Cult. By E. M. Loeb. Pp. vi+137. (Berkeley, Calif.; University of California Press; London: Cambridge University Press.) 1.50 dollars.
 Japanese Journal of Botany: Transactions and Abstracts. Vol. 6, No. 1. Pp. v+137+26. (Tokyo: National Research Council of Japan.)
 Rubber Research Institute of Malaya. Planting Manual No. 3: Plantation Sheet Rubber Manufacture. By R. O. Bishop. Pp. iv+61. (Kuala Lumpur.) 2 dollars.
 Smithsonian Miscellaneous Collections. Vol. 87, No. 5: The Narrative of a Southern Cheyenne Woman. By Truman Michelson. (Publication 3140.) Pp. 13. Vol. 87, No. 8: Seth Eastman, the Master Painter of the North American Indian. By David I. Bushnell, Jr. (Publication 3136.) Pp. 19+15 plates. (Washington, D.C.: Smithsonian Institution.)
 Japanese Journal of Astronomy and Geophysics. Transactions and Abstracts, Vol. 3, No. 2. Pp. ii+77-125+7-11. (Tokyo: National Research Council of Japan.)
 Iowa Geological Survey. Vol. 34: Annual Report, 1928; with Accompanying Papers. Pp. viii+464. (Des Moines.)
 Proceedings of the United States National Museum. Vol. 80, Art. 14: Upper Cretaceous Foraminifera from Trinidad. By Joseph A. Cushman and P. W. Jarvis. (No. 2914.) Pp. 60+16 plates. Vol. 80, Art. 15: The Parasitic Habit in the Ducks, a Theoretical Consideration. By Herbert Friedman. (No. 2918.) Pp. 7. (Washington, D.C.: Government Printing Office.)
 U.S. Department of Agriculture. Technical Bulletin No. 299: Repellency to the Japanese Beetle of Extracts made from Plants Immune to Attack. By F. W. Metzger and D. H. Grant. Pp. 22. (Washington, D.C.: Government Printing Office.) 5 cents.

CATALOGUES

- Classified List of Second hand Scientific Instruments. (No. 101.) Pp. vi+58. (London: C. Baker.)
 B. D. H. Reagents for Delicate Analysis and "Spot" Tests. Pp. iv+40. (London: The British Drug Houses, Ltd.)
 Women Writers (Seventh Century to Present Day): Biographies and Autographs of Celebrated Women, Children's Books, Costume, Nursing, etc. (Catalogue 548.) Pp. 28. (London: Francis Edwards, Ltd.)
 Industrial Thermometers, Hydrometers, Pressure Gauges. (List No. 579.) Pp. 52. (London: C. F. Casella and Co., Ltd.)