

Early Science at Oxford.

February 1, 1683-4. Mr. Desmasters gave us an account of some experiments lately made by him, concerning ye expansion of Water frozen; he observed, that a cylindrical tube of $\frac{1}{4}$ of an inch diameter, being filled with water, to ye height of 2 inches, and set to freeze, in a mixture of snow, and salt; ye water, when perfectly frozen, appeared $\frac{1}{8}$ of an Inch above ye marke it stood at before ye freezing began. Another cylindrical tube of almost an inch diameter, being filled with water to ye height of 6 inches, and set to freeze as before; ye water in freezing rose $\frac{1}{8}$ of an inch; he observ'd farther, that when ye water thus set in snow and salt, began to freeze, a great number of small bubbles rose continually from ye bottom for some time. Mr. Ballard has observed of late, that half a pint of water frozen, lost $\frac{3}{10}$ — $\frac{3}{10}$ —grviiij of ye weight it was of, before ye freezing; this experiment he tried a 2d time; ye success was much ye same, as at ye first. It was then queried, whether water, out of which ye air is pumpt, will rise in ye middle in the time of its freezing? and whether boiled water rises in freezing? Dr. Plot, and Mr. Ballard, undertook to trye these experiments.

Mr. Ballard gave an account of his success in trying some of Mr. Chamar's Experiments; whereas amongst other things Mr. Chamar says that Iron touched will loose its vertue, by being filed; Mr. Ballard says, this is true, if ye Iron be filed *all over*, not otherwise. Dr. Plot shewed some of ye Turkish *Rusma*, and *Alcanna*, which he lately received from Mr. Smith, Student of Christ Church, and chaplain to ye Factory at Smyrna, who wrote of ye use of ye Rusma, the *Alcanna* is ye leaf of a plant, dried, and powdered; which, when steeped a night in wine, will die ye nails red; and I suppose ye gentleman means Smyrna, or such like wine, for (as Dr. Plot tells us) it will not succeed with Canary, or Claret.

Dr. Plot then proposed, and it was ordered by ye Society, that an exact account of ye weather should be kept, either according to Mr. Lister's, or some such compendious, method; and that at ye end of this, and other years, ye account of ye weather of preceding years, one or more, should be printed with an almanac for ye year to come.

February 1, 1686-7. An account was communicated by Mr. Musgrave of a way to preserve beef for three quarters of a year, and then half a year more after roasting.—An account of two high tides at London Jan. ye 28th, one 5 hours after the other.—An account of several extraordinary productions of a fœtus, bred out of a cat and a rat; the cat being the dam. This fœtus is now to be seen at the Earl of Abingdon's, as likewise a *Hirco-cervus* bred of a goat and a deer at ye same place. An account of several productions of a colour different from that of their species: e.g. of a white Ouzle or Black-bird, of white mice at one Mr. Tillyard's, an Apothecary in Oxford; of white Woodcocks, Partridges, Pheasants, &c. seen by several of the Society.

February 2, 1685-6. A letter from Mr. Nicholson to Sir Wm. Dugdale concerning the Runic Inscription at Bridekirk was communicated by Dr. Plot.—A Paper of Dr. Papin's explaining ye use of his Water Engine was also read.

February 3, 1684-5. Two letters from Mr. Cuningham, of St. Leonards College, were read: the latter of these mentions a way used in Scotland for ye cleansing mines of noxious vapors; the miners carry down a candle, in a dark lantern, covered with a wet cloth; then, lying flat on their faces, they, in that posture, kindle, and maintain a fire, which carryes off ye vapors, without injuring ye miners.

Societies and Academies.

LONDON.

Royal Society, January 21.—R. E. Gibbs: Structure of a quartz. Investigations on quartz have shown that symmetry and X-ray data enable only partial definition of structure. Intensity measurements and general physical properties of the material must also be studied. Oxygen atoms occupy positions $c/9$ above and below the silicon atoms. Only a small structural change accompanies the transition from β to α quartz, but still the tetrahedral character of β quartz is lost. The structure proposed assumes the crystal to be non-molecular and the oxygen to occupy basal planes as noted above. The silicon atoms seem to move about 0.3 Å.U. from their β -positions.—N. K. Adam and G. Jessop: The structure of thin films, Pt. vii. Critical evaporation phenomena at low pressures. By means of a new apparatus, measurements of the surface pressure of monomolecular films have been made at room temperature, down to 0.01 dyne per cm. At areas greater than about 5000 sq. Å.U. per molecule, the pressures exerted by films of insoluble fatty substances tend to a value within 25 per cent. of that given by the equation $Fa = RT$, R having the same value as in a perfect gas. The divergences from the theoretical values are probably within experimental error. Between 100 and 5000 sq. Å.U. the pressure-area isothermals closely resemble those for liquid and vapour in three dimensions. Expanded films are analogous to liquids, not vapours, and there is considerable cohesion between the molecules in them.—H. J. Gough, D. Hanson and S. J. Wright: The behaviour of single crystals of aluminium under static and repeated stresses.—C. H. M. Jenkins: The determination of the vapour tensions of mercury, cadmium, and zinc by a modified manometric method. The apparatus consists of a specially designed manometer, using the material under determination as the observed liquid in this gauge; it can be inserted in a 3-inch diameter electric tube furnace. The pressure on the apparatus is regulated by means of nitrogen, the pressure of which is measured on an independent barometer. The vapour pressure of the liquid is measured over a free surface in the closed end of the manometer by alterations in the pressure of the nitrogen to bring both liquid surfaces in this gauge level. The apparatus is similar to the letter V in shape. One extremity is closed; the other opens into a long straight column bent at right angles to it. Into this column specially shaped pieces are inserted, transforming it into a reflux condenser, which counteracts the diffusion of the nitrogen into the vapour. Values have been obtained for the vapour tensions of mercury, cadmium, and zinc over the range of pressure from 15 to 1500 mm. The boiling-points (760 mm.) have been found to be 357°, 767° and 906° C. respectively.—W. Barlow: The configuration of the carbon atom and the geometrical relations of this configuration to those of other atoms, as evidenced in the chemical and crystallographic structures of organic chemistry. Pt. i.—Ursula Andrewes, Ann C. Davies and F. Horton: The soft X-ray absorption limits of certain elements. Investigations have been made of the voltages corresponding to critical values of electron energy associated with some of the longer wave-length absorption stages of seven successive elements, chromium, manganese, iron, cobalt, nickel, copper and zinc. The generally accepted value of an absorption limit, obtained by spectroscopic methods, corresponds not to ionisation of the atom by the detachment from it of an electron in the sub-

group concerned, but to the transportation of the electron from the sub-group to the periphery of the atom, *i.e.* to the levels of the most loosely bound electrons. The values obtained in this investigation are associated with absorption of energy by electrons in the M sub-groups, the several values obtained for each element being attributed to selective absorption stages, and not to actual ionisation of the atom.—**W. L. Bragg and G. B. Brown**: The crystalline structure of chrysoberyl. Chrysoberyl, BeAl_2O_4 , is analogous in chemical composition to the spinel group of minerals $\text{R}''\text{R}_2\text{O}_4$. It is entirely different in its crystalline form, being orthorhombic, whereas the spinels are cubic. It may be supposed that the oxygen ions occupy the greater part of the volume in the crystal, and the metal ions are placed in the interstices between a close-packed assemblage of oxygen ions. A comparison of BeO , Al_2O_3 , BeAl_2O_4 , shows that in each case the oxygen atoms are very nearly in a close-packed hexagonal arrangement and that the distances between atomic centres are almost identical from the three crystals, being about 2.7 \AA.U. Each aluminium atom in Al_2O_3 and BeAl_2O_4 occupies a position between six oxygen atoms. The hexagonal close-packed lattice can be referred to orthorhombic axes with ratios $\sqrt{2/3} : 1 : \sqrt{3/3}$.—**H. G. Telling**: On a set of quartic surfaces in space of four dimensions, and a certain involutory transformation. Each of the surfaces in four dimensions may be generated by taking three arbitrary skew lines and two arbitrary points, drawing a plane through each of the points to meet the three lines, and then finding the locus of the intersection of the plane through the first point with the plane through the second point. The geometry of the surface then suggests the consideration of, in all, fifteen lines, of which that joining the two given points is one; and then passing through an arbitrary given point of the space, there are fifteen such surfaces, one associated with each of the lines. The paper is concerned with determining the intersection of any two of these fifteen surfaces.—**L. F. Richardson**: Atmospheric diffusion shown on a distance-neighbour graph. The atmospheric diffusivity in Fick's equation has been found by various investigators to increase from $0.2 \text{ cm}^2 \text{ sec}^{-1}$ to $10^{11} \text{ cm}^2 \text{ sec}^{-1}$ as the size of the cluster of diffusing particles increases from 10^{-2} to 10^8 cm . The effect is due to eddies of many sizes acting together. There is apparently no way of modifying Fick's equation in order to describe this phenomenon. But a new mathematical method is here developed, in which, instead of thinking about concentration as a function of position, we think about q , the mean number of neighbours per length, as a function of l , their distance apart. This gives a rough average value $0.6 \text{ l}^{1/3} \text{ cm}^2 \text{ sec}^{-1}$ for the atmosphere, when l lies between 1 metre and 10 km.—**T. Alty**: Some phenomena occurring at the surface of bubbles in water. The surface tensions of water in contact with various gases are compared by the drop-weight method. The weight of a bubble is independent of the gas used if the rate of flow is slow enough. To examine a new water surface, the rate of flow is increased until several bubbles emerge per second. When flowing from the same capillary, the gases form bubbles the volumes of which can be arranged in decreasing order as follows: argon, nitrogen, oxygen, ozone, hydrogen, nitric oxide, carbon dioxide. These differences are related to the adsorbability of the gases.—**A. L. M. Sowerby and S. Barratt**: The line absorption spectra of the alkali metals. The alkali metals are all able to absorb the lines of the combination series $1s-md$, contrary to the Selection Principle. The caesium series of this type has been observed for the first

time. The absorption of this series by potassium is uninfluenced by the presence of argon at two atmospheres pressure. It is estimated that 12,000 times as many atoms can absorb the first member of the principal series of potassium and rubidium as can absorb the line $1s-3d$, the ratio being the same for the two metals. The "atomic extinction coefficients" of the different alkali metals are approximately the same for corresponding lines.—**A. M. Tyndall and G. C. Grindley**: The mobility of ions in air. Pts. i. and ii. The improved method of measuring mobility depends on producing ions by flashes of α -rays subjected to a special alternating field. The effect of water vapour is to cause fall of mobility of fully formed negative ions down to a value 1.6 in saturated air. Positive ions of two types were found—initial and final. The mobility of the initial type is indistinguishable from that of the negative and is similarly affected by water vapour. Water vapour has a retarding influence on rate of transformation into final ions. In ordinary dry air much transformation occurs within 0.007 sec. of birth, but in wet air the ions nearly all remain in the initial stage at double this age.—**W. Jevons**: A band spectrum of tin monochloride exhibiting isotopic effects. The spectrum of the uncondensed discharge through SnCl_4 vapour comprises a continuous spectrum between $\lambda 4900$ and $\lambda 3950$, and a hitherto unrecorded band spectrum consisting of two distinct sets of bands occupying the regions $\lambda 3910-\lambda 3486$ and $\lambda 3405-\lambda 2830$ respectively. Each set is attributed to a chloride of tin. The bands in the more refrangible set constitute two systems α and β of the normal Deslandres type. If they be ascribed to SnCl^{85} , a few additional bands in the same region are attributable to SnCl^{87} . There is also some indication of the tin isotope effect. The less refrangible set consists of several groups, each containing a few close bands degraded towards the red. Too little is known of these bands to say whether they are emitted by SnCl or by a polyatomic chloride.—**J. H. Andrew, M. S. Fisher and J. M. Robertson**: Some physical properties of steel and their determination. Methods of measuring electrical resistance, electrode potential, and continuous change of resistance during tempering, are described. The change from martensite to granular pearlite is gradual and only proceeds to a certain stage at each temperature. Martensite is not formed during tempering at constant temperature, but results from the decomposition of austenite during cooling from the tempering temperature. The rate of tempering of martensite is not affected by the addition of moderate amounts of special elements. Austenite tempers more slowly, and its rate of tempering is considerably reduced by addition of special elements.—**N. K. Adam and G. Jessop**: Note on the spreading of solids on water surfaces. Cary and Rideal's observations on the spreading of myristic acid on water have been continued down to very low compressions. A small pressure, that of the "gaseous" state of the film, is set up immediately the crystal touches the surface, and the "two-dimensional vapour pressure" very soon afterwards.

Royal Microscopical Society, December 16.—**F. I. G. Rawlins**: The theory of dimensions in microscopy. The fundamental quantities of interest to the microscopist, such as the power of a lens, curvature, numerical aperture, resolution, convergence, are considered from a dimensional point of view. A number of magnitudes in common use for interference work are discussed dimensionally, and the importance of the inclusion of the appropriate constants of propor-

tionality when dealing with geometrical properties is stressed.

EDINBURGH.

Royal Society, January 11.—A. Anstruther Lawson: The origin of endemism. The vast continental, insular flora of Australia, with 70 per cent. of its species and 30 per cent. of its genera endemic, is perhaps the most favourable of all fields for the study of endemism. From a study of their habits, habitat, foliage, variability, great profusion of flowers, sterility of flowers, and low percentage of seed set of the main endemic types, which is so characteristic, it seems at least the majority are hybrids. Hybridisation seems to occur in the Australian flora wherever possible, and the possibilities are quite general. The endemic flora had its origin as hybrid mutations derived in the first place from non-endemic types. Hybrid mutations—followed by natural selection—has been the main determining factor and influence in the evolution of the Australian flora. Such conclusions are directly opposed to the theory of De Vries and to the Morgan School in America.—G. Gordon Harrower: A study of Ho-kien and Tamil skulls. The Ho-kien, native of the Chinese province of Foo-kien, differs in certain particulars from that of the northern Chinese, and represents a more or less pure strain of the indigenous Mongolian type which preceded the Chinese in south-eastern Asia. Comparisons reveal certain affinities with one type of Tibetan skull—a point of interest in connexion with the question of origins. The sample of Tamil skulls collected represents one group of the indigenous Dravidians of southern India. The skull is relatively long and narrow, and is high; the face is low and relatively broad, and the nasal aperture is only moderately broad in proportion to the height. The skull differs in several particulars from European skulls of the same class, notably in the smaller expansion of the occiput; it shows no admixture with the intrusive Aryan element.—D. A. Fairweather: Electrosynthesis in the series of normal dibasic acids. Three new acids of this series have been synthesised by Crum Brown and Walker's electrosynthetic method, namely, those with 20, 24 and 28 methylene groups.—C. C. Miller: The slow oxidation of phosphorus trioxide Pt. 1. The action of water vapour on phosphorus trioxide. The oxidation of phosphorus trioxide to pentoxide by oxygen at low temperatures (25°) is accompanied by luminescence, and only takes place in the presence of water vapour, the pressure of which need only be very low. In the absence of oxygen it was found that at 25°, under certain conditions, comparatively large quantities of gaseous and liquid phosphuretted hydrogen were produced, which may play a part in the oxidation when oxygen is present.—E. T. Copson: Partial differential equations and the calculus of variations. The conditions under which a linear partial differential equation of the second order may be derived by annulling the variation of an integral are determined. The self-adjoint equation is shown to be a particular case. Systems of equations are also discussed.

ROME.

Royal Academy of the Lincei, November 15.—T. Levi-Civita: Gravitational movements in one dimension.—G. Armellini: Theory of the flying shadows in solar eclipses. The shadow bands moving in front of, and parallel to, the lunar shadow during total solar eclipses are regarded as an ordinary diffraction phenomenon.—F. Zambonini and G. Carobbi: Double sulphates of rare earth and alkali metals (iv.). Double sulphates of neodymium and sodium. Compounds containing $\text{Nd}_2(\text{SO}_4)_3$, Na_2SO_4 , and H_2O in the

respective molecular proportions 1:1:2, 4:5:8, 3:4:6, and 2:3:5 have been obtained as pale violet-red crystals.—F. Zambonini and R. G. Levi: Isomorphism of molybdates of the rare earth metals with those of calcium, strontium, barium, and lead (iv.). Structure of the molybdates of lanthanum, cerium, praseodymium, neodymium, and samarium.—L. Sabatani: Pharmacological action of iron with double and complex salts.—S. Franchi: Geological problems in the Franco-Italian Alps.—L. A. Herrera: Imitation of cell-division and spore-germination by means of calcium fluosilicate.—G. Tizzoni, E. Centanni, and G. De Angelis: Modifications produced by radium in the substance of the cancer tumour of the young rat, and its transformation into a curative vaccine.—W. Blaschke: Cyclic systems of curves on a surface.—Antonio Signorini: A theorem of existence and singularity in the statics of materials exhibiting low resistance to tension.—Bruno Finzi: Potential laminary liquid motions on developable surfaces.—Rita Brunetti: Relative magnitude of atoms and ions.—A. Pontremoli: A characteristic experiment in electric or magnetic double refraction.—G. R. Levi: The varieties of thorium oxide and their catalytic action in the dehydration of alcohol. The so-called meta-oxide of thorium is crystalline and identical with the normal oxide, whereas the thorium hydroxide usually obtained is amorphous and undergoes transformation into an amorphous oxide stable at temperatures higher than 300°. The catalytic influence of the oxide on the dehydration of alcohol is not affected by its crystalline or amorphous character.—Raoul Poggi: Some derivatives of toluene.—C. Sandonnini: Actions in the presence of carbon.—Paolo Principi: Observations on the geology of the upper and middle valleys of Savio.—Beatrice Torelli: The significance of heterochromosomes.—Umberto D'Ancona: Influence of salt solutions on the resistance of young eels to fasting.—Remo Grandori: Studies on the blastokinesis of insects.

WASHINGTON, D.C.

National Academy of Sciences (Proc., Vol. 11, No. 12, December 1925).—George H. Shull: The third linkage group in *Oenothera*. A mutation called "old-gold" (*velutavea*) found in *O. lamarckiana* is the first discovered factor of a third linkage group. Another factor of the same group, "double" flowers (called mutant *supplena*), is now announced.—Horace W. Feldman: Fertility of the rat, *Mus norvegicus*. Fertility in the Norway rat is generally dependent on the vigour of the female. The size of litter increases to a maximum at the age of 150-179 days and decreases afterwards to a minimum, due apparently to the decrease of general vigour with age. Inbreeding increased the frequency of still-births. Seasonal fluctuations occurred: litters showed an average maximum (7.3 young) in June, decreasing to a low point (5.2 young) in October and increasing again in November and December.—Tracy Yerkes Thomas: Invariants of relative quadratic differential forms.—R. L. Wilder: A property which characterises continuous curves. A continuous curve is a bounded continuum connected *im kleinem*, and such curves are characterised by being "normally connected."—Carl Barus: Telephonic coupling of acoustic and electrical oscillations evidenced by the pinhole probe.—J. C. Slater: Interpretation of the hydrogen and helium spectra. Pauli has suggested that the double levels in atoms having one valence electron have some connexion with a duality in the quantum laws. This would lead to resemblances between the spectra of hydrogen and helium and those of the alkalis and alkaline earths respectively. Evidence of this is adduced.—J. G. Winans: Radiation emitted by

optically excited zinc vapour. Zinc vapour in a quartz "resonance" tube was illuminated by a water-cooled zinc arc maintained in a quartz tube. Thirteen lines were detected in the spectrum observed and accounted for; in addition, four bands appear which are more intense relative to the lines in the optically excited radiation than in that from the zinc arc. Mercury as an impurity in the zinc vapour gives evidence of "impact fluorescence."—Ernest Merritt: On contact rectification by metallic germanium. Rectifying properties were observed, the contact being stable, and the behaviour at different points fairly uniform. Making contact with bismuth gives anomalous results. Platinum was also used and the temperature raised. The resistance of the contact becomes much smaller, and at 220° C. it was the same in both directions through the contact. On cooling, the resistance remained greater than it was before heating, due apparently to a highly resistant film of oxide.—Henry Fairfield Osborn: The origin of species (ii.). Further detailed statements are made on some of the nine bio-mechanical principles of adaptation enunciated in an earlier paper (NATURE, June 13, 1925, p. 925, and June 20, 1925, p. 961).—Raymond Pearl: Vital statistics of the National Academy of Sciences. (i.) Age at election. The original membership was of high average age; of the 48 charter members, only 4 were less than 38 years old. During the period 1864–83, the mean age at election was 44.47 years; for 1884–1904, it increased to 46.54 years; and for 1905–1924, another four years were added. Of the 213 elected during this last period, only 8 were less than 38 years old. These figures show the same tendency as the statistics of the Royal Society. (ii.) Elections of young men. 43 persons, including 2 charter members, were less than 37 years old at election. Of these, 30 worked at the physical and 12 at the biological sciences. The youngest man elected was the astronomer, E. C. Pickering (26.8 years), and the next youngest, the engineer, Fairman Roger, charter member (29.3 years). (iii.) Mortality. At 40 years of age, members of the Academy have a mean after lifetime more than five years greater than that of urban white males of the United States, and some increased expectation is maintained up to the age of 85 years. This might be expected, since they belong to the occupational groups giving superior risks from the life insurance viewpoint. (iv.) The present limitation to total membership and other matters. With living membership of 221, 15 elections, and an average of 8 deaths annually, the Academy will reach its limit of 250 members in 1929; thereafter, the mortality will allow of the election of 6 to 8 members a year. The present mean age of members is 60.74 ± 0.47 years; their mean duration of service is 12.17 ± 0.48 years, and that of members who have died was 19.57 ± 0.60 years.—Marston Taylor Bogert and Hugh Blake Corbitt: Researches on thiazoles (x). The synthesis of some 2-phenyl-benzothiazole arsonic acids. These compounds are important therapeutically, for one of them has a greater action on *Tr. equiperdum* and greater toxicity for white rats than the corresponding benzene compound, but there was no evidence of any effect on the nervous system such as is frequently caused by penta-valent arsenic compounds.—S. C. Lind: The origin of terrestrial helium and its association with other gases. Helium is very generally distributed in natural gases, but in widely different concentrations (maximum nearly 4 per cent.). It is not confined to limited geological horizons, suggesting that its occurrence in quantity is due to prevention of leakage by a gas-seal, such as a capping of

shale containing clay. A radioactive origin is favoured. It is always found with high though variable nitrogen content, possibly due to the action of the initial α -particle producing nitrogen and helium simultaneously, from some nitrogen compound in the parent mineral.

Official Publications Received.

- The Kent Incorporated Society for Promoting Experiments in Horticulture. Annual Report, East Malling Research Station, 1st January 1924 to 31st December 1924. Pp. 216. (East Malling.) 5s.
- Egyptian Government: Anti-Malaria Commission. The Mosquitoes of Egypt. By T. W. Kirkpatrick. Pp. xii+221+24 plates+2 maps. (Cairo: Government Publications Office.) 30 P.T.
- Union of South Africa: Department of Agriculture. Science Bulletin No. 38: Report on the Cost of Production of Maize Investigation for the Season 1922-23. By E. Parrish. Pp. 30. 3d. Science Bulletin No. 41: Note on the Storage of Eggs. By E. A. Griffiths, D. J. R. de Villiers and Leitch Anderson. Pp. 16. 3d. Science Bulletin No. 42: (i) Further Investigations into the Causes producing Rosette of Apricot and Plum Trees in the Wellington District; (ii) Report on some Preliminary Investigations into the Influence of Alkali Soils on Peach Stocks employed for Apricot and Plum Trees. By Dr. R. Marloth. Pp. 30. 3d. (Pretoria: Government Printing and Stationery Office.)
- Department of Commerce: Bureau of Standards. Circular of the Bureau of Standards, No. 1: National Bureau of Standards; its Functions and Activities. Second edition. Pp. vi+113. (Washington: Government Printing Office.) 50 cents.
- Proceedings of the Society for Psychical Research. Part 96, Vol. 35, December. Pp. 471-594. (London: Francis Edwards.) 7s. net.
- South Australia. Annual Report of the Director of Mines and Government Geologist for 1924. Pp. 8. (Adelaide: R. E. E. Rogers.)
- University of Illinois Engineering Experiment Station. Bulletin No. 151: A Study of Skip Hoisting at Illinois Coal Mines. By Prof. Arthur J. Hoskin. Pp. 66. (Urbana, Ill.) 35 cents.
- Madras Agricultural Department. Year Book, 1924. Pp. 94. (Madras: Government Press.) 14 annas.
- Report on the Operations of the Department of Agriculture, Madras Presidency, for the Year 1924-25. Pp. 51+5. (Madras: Government Press.) 4 annas.
- Agricultural Research Institute, Pusa. Bulletin No. 161: List of Publications on Indian Entomology, 1924. (Compiled by the Imperial Entomologist.) Pp. ii+41. 8 annas; 9d. Bulletin No. 163: Loss of Sugar by Inversion in Sugar Factories in Northern India and its Prevention by Antiseptic Measures. By C. M. Hutchinson and C. S. Ramayyar. Pp. ii+9. 2 annas; 3d. (Calcutta: Government of India Central Publication Branch.)
- Annales de l'Institut de Physique du Globe de l'Université de Paris et du Bureau central de Magnétisme terrestre. Publiées par les soins de Prof. Ch. Maurain. Tome 3. Pp. viii+165. (Paris: Les Presses universitaires de France.)
- Société des Nations: Organisation d'hygiène sous-comité du Cancer. (League of Nations: Health Organisation Sub-Committee on Cancer.) Rapport sur les résultats des enquêtes démographiques dans certains pays. (Report on the Results of Demographic Investigations in certain selected Countries.) C.H. 333, Vol. 1. Pp. 168. Rapport sur les résultats de certaines enquêtes cliniques se rapportant aux différences de mortalité cancéreuse dans certains pays choisis spécialement. (Report on the Results of certain Clinical Enquiries relating to Differences of Cancer Mortality in certain selected Countries.) C.H. 333, Vol. 2. Pp. 39. (Genève: Société des Nations; London: Constable and Co., Ltd.)
- The Observer's Handbook for 1926. Edited by C. A. Chant. (Eighteenth Year of Publication.) Pp. 72. (Toronto: Royal Astronomical Society of Canada.)
- Ministry of Public Works, Egypt: Physical Department. An Experiment to Determine Corrections to Sounding in River Gauging. By Dr. P. Phillips. (Physical Department Paper No. 18.) Pp. 26+20 plates. (Cairo: Government Publications Office.) 5 P.T.
- University of Adelaide. Publications under the Keith Sheridan Foundation, No. 1: Dentition and Palate of the Australian Aboriginal. By Dr. T. D. Campbell. (Thesis presented for the Degree of Doctor of Dental Science.) Pp. viii+123+53 plates. (Adelaide.)
- The Marine Biological Station at Port Erin (Isle of Man): being the Thirty-ninth Annual Report of the former Liverpool Marine Biology Committee, now the Oceanography Department of the University of Liverpool. Drawn up by Prof. Jas. Johnstone. Pp. 40. (Liverpool: University Press of Liverpool, Ltd.; London: Hodder and Stoughton, Ltd.) 1s. 6d. net.
- The Manchester Museum. Notes from the Manchester Museum, No. 28: Some Collembola from Southern New Zealand. By Dr. George H. Carpenter. (Museum Publication 89.) Pp. 16. 2s. Report of the Museum Committee for the Year 1924-25. (Museum Publication 90.) Pp. 19. 6d. net. Notes from the Manchester Museum, No. 29: The Distribution of *Margaritana Margaritifera* in the British Islands. By J. Wilfrid Jackson. (Museum Publication 91.) Pp. 10. 1s. 6d. (Manchester.)
- National Museum of Wales. Guide to the Collections of British Lepidoptera. Pp. 31+2 plates. (Cardiff.) 6d.
- Canterbury College (University of New Zealand). Records of the Canterbury Museum. Vol. 2, No. 5. Pp. 269-329+plates 41-47. (Christchurch, N.Z.)
- Appendix No. 2 to the Annual Report of the Chief of the Bureau of Navigation, 1925. Annual Report of the Naval Observatory for the Fiscal Year 1925. Pp. 21. (Washington: Government Printing Office.)