Societies and Academies.

LONDON.

Royal Society, June 24.—J. C. **McLennan** and A. B. **McLay**: On the structure of the arc spectrum of gold.—Nearly all the wave-lengths known to belong to the gold arc-spectrum have been classified. The most important wave-lengths not yet classified are six that were found to be absorbed by the vapour in the under-water spark of gold. These wave-lengths undoubtedly involve the metastable term $1D_3^2$. Zeeman-effect experiments will probably furnish the best means of definitely settling any features of the arc-spectrum of gold not yet clear.

J. C. **McLennan** and H. G. **Smith**: On the series spectra of palladium.—The regular arc-spectrum of palladium, involving disturbances of a single electron outside a core of nine 4_3 electrons, includes very nearly all the strong lines of the arc, and most of the faint lines of wave-length longer than 3400 Å.U. In the region of shorter wave-lengths there is also a large number of faint lines, apparently belonging to the arc-spectrum, for which no place can be found in the regular series system. These faint lines can probably be ascribed to a secondary-series system. The analysis of the spark-spectrum has shown that $(4_3)^8\ 5_1$ and $(4_3)^9$ are of almost equal stability, and consequently terms of this type should occur with considerable prominence in the arc-spectrum, but might not combine readily with the regular terms. An attempt to find a clue to this part of the spectrum by means of the inter-combinations has been unsuccessful. Similar configurations are also likely to be prominent in the spark-spectrum.

A. M. **Tyndall** and L. R. **Phillips**: The mobility of ions in air (Part iii.).—Measurements of the mobilities in air containing organic vapours over a range of concentration extending up to saturation show in every case a reduction in mobility by the addition of vapour, though the amount depends upon the constitution of the vapour and the sign of the ion. The gradient of the mobility vapour pressure curve for the negative ion is in general steep at low concentrations, but falls off later. In the case of the homologous series of normal aliphatic alcohols the steepness increases as one ascends the series. Similar effects have been observed for the positive ion, but the initial drop in mobility is much less marked. The relative effects of the various vapours seem to depend upon (1) a 'clustering coefficient' determined by the combined effect of any permanent electric moment and an induced electric moment in the neutral molecule, (2) the effective diameter of the cluster.

L. C. **Jackson**: Investigations on paramagnetism at low temperatures (Part ii.).—Orientated sections of the crystal are suspended in a non-homogeneous magnetic field and the forces exerted on them are measured by means of a Pettersson quartz micro-balance sensitive to 10^{-6} mgm. The magnetic field is produced by a large accurately constructed coil and its value is determined from the current strength and the coil dimensions. Data for the three principal susceptibilities of cobalt potassium sulphate are given for temperatures down to $-100°$ C. The principal susceptibility parallel to the symmetry axis of the crystal is also given for nickel ammonium sulphate and manganese ammonium sulphate. The principal susceptibilities all obey the law $\chi(T+\Delta)=\text{constant}$ over the range of temperature investigated.

Sybil **Cooper** and D. **Denny-Brown**: Responses to rhythmical stimulation of the cerebral cortex.—Electrical and myographic records have been made of movement produced by rhythmical stimulation of the cerebral motor cortex. Rates of 18 to 68 per second were used. In the electromyograms the primary waves follow the rate of stimulation, and secondary waves are at present giving an average total frequency of 120 per sec. The mechanical records show rhythmic tremor corresponding in frequency with rates of electrical stimuli applied to cerebral cortex, even at 68 per sec. This confirms, and extends to higher frequencies, the original observations of François-Franck and Pitres.

Karl **Pearson**: Researches on the mode of distribution of the constants of samples taken at random from a bivariate normal population.—This paper deals with the distribution in samples, regardless of their size, taken from a large normal population of some of their 'compound' constants. By compound constants is meant not simple constants like means, standard deviations, or coefficients of correlation, but functions of these constants. The actual curves of distribution of the standard deviations of arrays, and of the regression coefficient are obtained. Also the distribution of the means of arrays as determined by the regression line of the sample is studied, and all the moments of this distribution are determined, but it has not been possible to determine its curve of distribution. Even when sampling from a normal population, the curves of distribution of compound constants (like those of the majority of simple constants) are not themselves normal, nor are the relations between them linear. It follows accordingly that the so-called 'probable errors' of these constants are of relatively small significance in exactness, especially in the case of *small* samples, where their values are usually given by physicists and astronomers, as measures of accuracy of observation.

Lord **Rayleigh**: Further spectroscopic studies on the luminous vapour distilled from metallic arcs.—The appearance of high series members in the luminous vapour is due to their narrowness. In the arc these lines are so broad as to overlap; as the vapour emerges and expands, they become narrow and can be resolved. Enhanced lines occur in the distilled vapour, though in diminished intensity relative to the arc lines. In some cases, *e.g.* magnesium, they fade out very rapidly compared with the arc lines. The resonance line of mercury $1_1S'-1p_2$ gains intensity relative to all other lines as the vapour matures. The same is true of calcium; but the corresponding line of magnesium behaves in the opposite manner. A luminous jet of one metallic vapour is able in many cases to excite the vapour of another metal injected into it, but generally only if the ionisation potential of the first metal exceeds the excitation potential of the spectrum line in question.

Sir William **Hardy**: A microscopic study of the freezing of gel (Part i. and Part ii.).

Sir William **Hardy** and Millicent **Nottage**: Studies in adhesion (i.).

T. **Moran**: The freezing of gelatin gels.

W. **Jevons**: The more refrangible band system of cyanogen as developed in active nitrogen.—Modification of the λ3590 ($n''-n'=-1$) group and of some of the 'tail' bands is discussed. As regards the λ4216 and λ3883 groups, the afterglow develops especially lines of low m values and bands of high n' values. As n' increases the intensities of the bands in each group tend to show an alternation as well as a general increase. Bands with $n'=1$ are the weakest. The λ3590 group (like the above) is shortened in the low wave-length direction, but (unlike the above) it is prolonged in the high wave-length direction in the afterglow as compared with the arc, and also consists of headless bands. On the

assumption that these bands have $n''-n'=-1$, the absence of heads follows from the non-development of high m lines, and the high wave-length extension is in accordance with the enhancement of high-n' bands.

J. A. V. **Butler**: The equilibrium of heterogeneous systems including electrolytes (Part i.).

(The late) Mrs. Hertha **Ayrton**: Primary and secondary vortices in oscillating fluids: their connexion with skin friction.—Mrs. Ayrton demonstrated the existence of pressure differences on the lee side of obstacles in oscillating water and showed that vortices were formed in the liquid. These vortices were called 'primary' vortices when their full strengths were attained in one oscillation, and 'residual' vortices when more than one oscillation was required for their full development. The word 'secondary' is now substituted for 'residual.' Instantaneous photographs show that primary vortices occur near the ends of a tank in which water is oscillating and also near the nodes of stationary waves in such a tank, whilst secondary vortices spread throughout the remainder of the water.

T. T. H. **Verschoyle**: Isotherms of hydrogen, of nitrogen and of hydrogen-nitrogen mixtures at 0° and 20° C. up to a pressure of 200 atmospheres.—Experimental determination of isotherms of binary mixtures has been limited almost exclusively to mixtures of oxygen and nitrogen. It appears to be tacitly assumed that, for mixtures of the permanent gases, pv-values at normal temperatures are linear functions of composition. Isotherms of three mixtures of hydrogen and nitrogen have been measured at 0° and 20° C., and the results prove that the pv-values for the mixtures are far from being linear functions of the composition. Actually, a small admixture of nitrogen with hydrogen has relatively little influence on the pv-values, whereas a small addition of hydrogen to nitrogen has a comparatively great effect.

E. W. **Marchant** and J. L. **Miller**: The loss of energy in metal plates of finite thickness, due to eddy currents produced by alternating magnetic fields.—The energy lost due to eddy currents, produced by an alternating magnetic field, due to a flat circular coil, when placed near metal plates of different thicknesses, reaches a maximum for a certain thickness of plate. With a frequency of 50 cycles the loss is a maximum with copper plates about 0·4 cm. thick. A similar effect has been observed with zinc plates, though the maximum is not so definite. The mathematical theory worked out by Prof. Proudman is consistent with these results. The shape of the curve of the magnetic field is assumed to approximate to a Bessel function of zero order; a new integral is given for determining magnetic fields due to a coil of wire in terms of Bessel functions.

W. **Sucksmith** and H. H. **Potter**: On the specific heat of ferro-magnetic substances.

L. B. **Pfeil**: The effect of occluded hydrogen on the tensile strength of iron.—Tensile tests during electrolytic pickling of carbon-free iron are discussed. With iron in the ordinary finely crystalline condition, occluded hydrogen may result in a 10 per cent. reduction in tensile strength and an 80 per cent. reduction in elongation: the fracture, instead of passing *through* the crystals, as is normally the case, may pass only *between* the crystals. With single crystals, occluded hydrogen does not appreciably affect movement on the slip planes, but it materially decreases the cohesion across the cubic cleavage planes, the cohesion in certain cases being reduced to 5 tons per square inch. When the parallel portion of a test piece is made up of two large crystals, the weakest point is, in general, the intercrystalline boundary; the strength here is only about half that of the boundary between small crystals. The difference is due to the irregular path of the intercrystalline fracture in finely crystalline iron.

T. E. **Allibone**: The infra-red secondary spectrum of hydrogen.

D. C. **Rose**: The scattering of alpha particles through small angles.—The single scattering of alpha particles through angles from 1°·2 to more than 8° has been measured. A nearly parallel beam of alpha particles was projected perpendicularly on a thin gold foil and the number of particles emergent at the different angles was counted. The relative number of particles scattered at the different angles show that the nuclear field obeys the inverse-square law of force fairly closely, for distances between $0{\cdot}4\times10^{-10}$ cm. and $1{\cdot}7\times10^{-10}$ cm. from the nucleus. This region includes the K shell of electrons (radius, $0{\cdot}69\times10^{-10}$ cm. for gold) calculated from Bohr's model of the atom. Other experimenters have shown that the nuclear field obeys the inverse-square law of force for distances between $0{\cdot}5\times10^{-10}$ cm. and $3{\cdot}2\times10^{-12}$ cm. from the nucleus. The absolute number of particles scattered show that over the same range the field corresponds to a nuclear charge within 5 per cent. of the atomic number times the elementary electronic charge. The results are not accurate enough to detect the shielding effect due to the K shell of electrons. The curves indicate that the K shell is not ionised to any appreciable extent. Wentzel's criterion for single scattering has been extended.

V. H. **Stott**, D. **Turner** and H. A. **Sloman**: Effects of thermal treatment on glass as shown by precise viscometry.—A new viscometer for molten glass has been designed; prolonged measurements can be made on the same specimen subjected to various heat treatments. The determination depends on the thickness of glass which adheres to a thin iridio-platinum wire withdrawn from the glass at a known velocity. The apparatus is capable of a precision of the order of $\pm$ 3 per cent. of the viscosity, which is equivalent to a temperature error of about 3°. At sufficiently high temperatures the viscosity of a particular glass is a function of temperature only. Below 1200° the glass is generally in a heterogeneous form yielding discordant viscosity values; the heterogeneity is not directly connected with devitrification, which takes place at approximately 950°. The glass, in its high-temperature state, may be cooled to room temperatures and reheated an indefinite number of times without change of state if the cooling and heating be not too slow.

J. E. **Lennard-Jones** and Miss B. M. **Dent**: The forces between atoms and ions (ii.).—Earlier results are extended to provide a complete table of forces between the monovalent and divalent ions of the inert gas type.

J. **Topping** and A. E. **Ludlam**: Tables of $\log K_0(x)$ over the range $x=2$ to $x=12$ at intervals of 0·001.

B. **Lambert** and K. T. **Hartley**: An investigation of the effects of variations in the radiation factor on the efficiency of Dewar vessels.—The rates of evaporation of liquid oxygen and cooling of hot water have been determined in special Dewar vessels, with one or both of their vacuum-adjacent surfaces silvered, and with polished deposits of silver, gold, platinum, and copper on the vacuum-adjacent surface of the inner vessel, the outer vessel being plain glass. The result obtained by silvering the inner vessel only is almost as good as that obtained by silvering both surfaces. Silvering on the outer vessel only reduces

the efficiency by about a half. With different metal surfaces on their inner vessels, the order of efficiencies of the vessels should be that of the emissivities of these metals. This is the case for all the vessels with respect to hot water—the order being, silver, gold, copper, and platinum—but for liquid oxygen the copper-coated vessel is the least efficient. The dominant wave-length at the temperature of liquid oxygen approaches that corresponding to the 'characteristic frequency' of copper. For energy in this region of wave-lengths the emissivity of copper will therefore be high, so that copper vessels will necessarily be inefficient as containers for liquid oxygen.

J. E. **Lennard-Jones** and W. R. **Cook**: The molecular fields of hydrogen, nitrogen and neon.

H. **Florey**: Observations on the resolution of stasis in the finer blood-vessels.

T. S. P. **Strangeways** and Honor B. **Fell**: Experimental studies on the differentiation of embryonic tissues growing *in vivo* and *in vitro* (ii.). The development of the isolated early embryonic eye of the fowl when cultivated *in vitro*.

Nesta **Ferguson**: The Aloinæ—a cytological study, with especial reference to the form and size of the chromosomes.

Optical Society, June 10.—L. C. **Martin**: The distribution of light in elementary optical images. A series of calculations have been made on the distribution of light near the 'star focus' of a centred lens system in the following cases: (*a*) Freedom from aberration, (*b*) primary spherical aberration, (*c*) zonal spherical aberration. In the two latter cases the condition chosen is that when the least residual phase differences amount to $\pi/2$. The characteristic extra-focal effects are determined, and the effect of primary spherical aberration is discussed. In the case of zonal aberration the greatest axial intensity is not found at the focus giving least phase residuals. In both cases of aberration a concentration closely resembling in some respects the 'Airy' disc characteristic of zero aberration is found.—T. **Smith**: (1) The stationary value of axially symmetric functions. The formula for the stationary value of a function is put into a form which shortens the calculations involved in applying it to functions which possess special kinds of symmetry, such as that corresponding to symmetry about an axis. (2) Note on the criterion for the best position of focus. The position in which the amount of energy within the first dark ring of the diffraction image of a point is a maximum is suggested as not unlikely to correspond with the best focus found by visual observation in the presence of moderate amounts of aberration.

PARIS.

Academy of Sciences, May 25.—L. **Lecornu**: The rotating millstone.—P. A. **Dangeard**: Researches on the cellular formations contained in the cytoplasm of the Peronosporæ.—Alfred **Rosenblatt**: Algebraical varieties of three dimensions of which the types satisfy the inequality $P_g \leqq 3(p_g - p_a - 3)$. — Pierre **Humbert**: The q-harmonic functions in hyperspace.—R. **Gosse**: On a note of M. Lainé.—**Goursat**: Remarks on the preceding communication.—Georges **Valiron**: Meromorph functions without asymptotic values.—A. **Toussaint** and E. **Carafoli**: Contribution to the study of the plane flow of fluids. A new mode of applying the coloured thread method possessing certain advantages over that previously used (Marey, Hele-Shaw). The paths can be followed by the kinematograph.—Albert **Nodon**: A colloid condenser. This condenser is composed of two sheets of aluminium separated from each other by a material such as canvas, the pores of which are filled up with a thick paste of colloidal ferric oxide and glycerol. This arrangement fulfils the functions of an electrostatic condenser of great capacity, when submitted to an alternating current.—R. **Forrer**: The structure of the atomic magnet. Demonstration of the existence of a doublet in nickel.—H. **Mineur**: The theory of the partial entanglement of the ether.—W. **Kopaczewski** and W. **Szukiewicz**: The periodicity of colloidal reactions.—Jean **Barbaudy**: The miscibility, densities, and refractive indices of mixtures of methyl alcohol, benzene, and water.—P. **Chevenard**: The dilatometric anomaly of the paramagnetic nickel-chromium alloys; an alloy suitable for an expansion pyrometer. The nickel-chromium alloy suggested in an earlier communication as suitable for use in a pyrometer shows an anomaly at the temperature of 550° C. To remove this anomaly it is sufficient to increase the amount of manganese, to incorporate a small percentage of iron, and to replace a part of the chromium by tungsten. The new alloy (commercial name Pyros), besides nickel, contains 7 per cent. chromium, 5 per cent. tungsten, 3 per cent. manganese, 3 per cent. iron.—Raymond **Quelet**: The synthesis of derivatives of para-bromoallylbenzene.—A. **Kastler**: Contribution to the study of pollucite. The pollucite examined proved to be non-radioactive and contained 30·5 per cent. of cæsium.— —**Legrand**: A relation between the amplitudes of the annual rise of the Nile, the Niger and the Mekong.—J. **Lacoste**: Earthquakes observed in central France in 1925. Seven earthquakes were noted, the more important being on September 26, December 3 and 9. Details are given of the three mentioned.—Armand **Renier**: The existence of coal balls in the coal basin of Asturia.—J. **Giaja** and X. **Chahovitch**: The inefficacity of pilocarpine to affect the energy metabolism in the absence of the suprarenal capsules.—A. Vedel **Tåning**, The position of the cephalic disc in the Echeneideæ in the course of ontogenesis.—Ph. **Joyet-Lavergne**: The vital colorations of the gregarines and the characters of sexualisation of the cytoplasm.—Y. **Manouélian** and J. **Viala**: The enhancement of the virus of rabies and the Negri bodies.

ROME.

Royal National Academy of the Lincei, April 18.—Leonida **Tonelli**: Quadrature of surfaces.—A. **Angeli**: Anomalies of certain reactions. A number of cases are quoted in which a reaction of one substituent group in an organic compound may be retarded or even prevented by the introduction into the compound of another substituent.—Federico **Sacco**: The tunnel at Drink (Valle d'Aosta).—Achille **Russo**: The exconjugants derived from the first accessory conjugation between impure gametes in *Cryptochilum Echini* produce pure gametogens and pure gametes, which renew the principal cycle.—Alessandro **Weinstein**: The speed of propagation of the solitary wave.—Giorgio **Vranceanu**: Dirichlet's theorem.—Arnaldo **Masotti**: An extension of Blasius's formula.—Eligio **Perucca**: The cause of 'flying shadows.' If the phenomenon of flying shadows is one of diffraction, it must be more complicated and more indirect than is indicated by Armellini's theory. The absence of chromatism and the velocity with which these shadows are propagated suggest that the cause should be sought in the earth's atmosphere.—Enrico **Fermi**: The intensity of prohibited lines in intense magnetic fields.—Franco **Rasetti**: The polarisation of the light emitted by electronic shock.—Giorgio **Piccardi**: Ionisation potential of silver. By means of the flame method of Rolla and Piccardi, values ranging from 7·37 to

7·67 volts are obtained for the ionisation potential of silver, the mean being 7·46 volts. In view of the inaccuracy introduced by the impossibility of avoiding slight sparkling of the fused metal, this result agrees satisfactorily with the value, 7·54 volts, derived from the limits of the spectral series.—Carmela **Ruiz**: New investigations on barytes from Racalmuto, Sicily. Measurements of two specimens of barytes, occurring together with calcite and sulphur at Racalmuto, gave the axial ratios, $a:b:c = 0{\cdot}81558:1:1{\cdot}31467$, and the density 4·42-4·43 at 18°-19°.—Gustavo **Cumin**: Geological observations on the island of Asinello and on neighbouring rocks (Carnaro). The island of Asinello and the neighbouring rocks are mostly Cretaceous, Eocene measures appearing only on the principal island. Their coast morphology is the result of an aerial erosive action, on to which the marine action has been superposed.—F. Stella **Starrabba**: Monthly distribution of the eruptions of Japanese volcanoes.—Giulio **Cotronei**: Dark and light fibres in the insular organ of *Petromyzon marinus*.—B. **Monterosso**: The structure of the body of *Peroderma cylindricum* Heller, in relation to the cellular theory.

VIENNA.

Academy of Sciences, May 14.—V. **Oberguggenberger**: Determination of altitude of the pole at the Innsbruck Observatory with the help of Oppolzer's zenith telescope.—V. **Pietschmann**: A new deep-sea fish of the order Pediculati.—E. **Keller**: Curved perspectives.—M. **Kohn** and A. **Zandmann**: Communication on bromo-phenols, xxi. Display of new halogen-phenols from *m*-chloro-phenol.

Official Publications Received.

Department of the Interior: U.S. Geological Survey. Bulletin 781B: Geology of the Baxter Basin Gas Field, Sweetwater County, Wyoming. By Julian D. Sears. (Contributions to Economic Geology, 1925, Part 2.) Pp. ii+13-29+plates 2-6. Water-Supply Paper 542: Surface Water Supply of the United States, 1922. Part 2: South Atlantic Slope and Eastern Gulf of Mexico Basins. Pp. iv+74+2 plates. 10 cents. Water-Supply Paper 546: Surface Water Supply of the United States, 1922. Part 6: Missouri River Basin. Pp. vii+349+2 plates. 35 cents. Water-Supply Paper 552: Surface Water Supply of the United States, 1922. Part 12: North Pacific Slope Drainage Basins. A: Pacific Basins in Washington and Upper Columbia River Basin. Pp. v+203+2 plates. 25 cents. Professional Paper 138: Mining in Colorado; a History of Discovery, Development and Production. By Charles W. Henderson. Pp. iv+263+1 plate. 1 dollar. Professional Paper 140A: Geology of the Latah Formation in relation to the Lavas of the Columbia Plateau near Spokane, Washington, by J. T. Pardee and Kirk Bryan; Flora of the Latah Formation of Spokane, Washington, and Coeur d'Alene, Idaho, by F. H. Knowlton. (Shorter Contributions to General Geology, 1925.) Pp. iv+81+31 plates. Professional Paper 140B: Fossil Proboscidea and Edentata of the San Pedro Valley, Arizona. By James Williams Gidley. (Shorter Contributions to General Geology, 1925.) Pp. ii+83-95+plates 32-44. Professional Paper 140C: Pleistocene Plants from North Carolina. By Edward Wilber Berry. (Shorter Contributions to General Geology, 1925.) Pp. ii+97-119+plates 45-57. Professional Paper 140D: Shore Phases of the Green River formation in Northern Sweetwater County, Wyoming. By Wilmot H. Bradley. (Shorter Contributions to General Geology, 1925.) Pp. ii+121-131+plates 58-62. (Washington, D.C.: Government Printing Office.)

Proceedings of the Academy of Natural Sciences of Philadelphia. Vol. 77, 1925. Pp. iii+388+11 plates. (Philadelphia, Pa.)

Fortieth Annual Report of the Bureau of American Ethnology to the Secretary of the Smithsonian Institution, 1918–1919; with accompanying Papers—The Mythical Origin of the White Buffalo Dance of the Fox Indians, by Truman Michelson; The Autobiography of a Fox Indian Woman, by Truman Michelson; Notes on Fox Mortuary Customs and Beliefs, by Truman Michelson; Notes on the Fox Society known as 'Those who Worship the Little Spotted Buffalo,' by Truman Michelson; The Traditional Origin of the Fox Society known as 'The Singing Around Rite,' by Truman Michelson. Pp. viii+664. (Washington, D.C.: Government Printing Office.) 2·75 dollars.

Journal of the Manchester Egyptian and Oriental Society. No. 12. Pp. 59. (Manchester: University Press; London: Longmans, Green and Co., Ltd.) 7*s.* 6*d.* net.

Proceedings of the Imperial Academy. Vol. 2, No. 3, March. Pp. v-vi+93-147. (Ueno Park, Tokyo.)

Report of the Aeronautical Research Institute, Tôkyô Imperial University. No. 15: The Resistance of the Airship Models measured in the Wind Tunnels of Japan. By the Wind Tunnel Committee specially appointed by the Aeronautical Council of Japan. Pp. 84. (Tôkyô: Maruzen Kabushiki-Kaisha.) 2 yen.

Annual Report of the Zoological Society of Scotland for the year ending 31st March 1926. Pp. 59+6 plates. (Edinburgh.)

Observatoire de Zi-ka-wei. Notes de sismologie, No. 7: Mouvements sismiques des magnétomètres à Zi-ka-wei et à Lu-kia-pang (1877–1924). Principaux sismogrammes, 1925. Par le Rev. P. E. Gherzi. Pp. 33+7 planches. (Zi-ka-wei, Chang-hai.)

Proceedings of the Royal Society of Edinburgh, Session 1925–1926. Vol. 46, Part 2, No. 19: The Wheatstone Bridge as the Means of Measuring Linear and Angular Dimensions at a Distance, and its Application to Borehole Surveying. By Prof. Henry Briggs. Pp. 223–229. 1*s.* Vol. 46, Part 2, No. 20: On Fertility in the Domestic Fowl. By Dr. F. A. E. Crew. Pp. 230–238. 9*d.* (Edinburgh: Robert Grant and Son; London: Williams and Norgate, Ltd.)

Empire Cotton Growing Corporation. Report of the Administrative Council of the Corporation to be submitted at the Fourth Annual General Meeting on June 9th, 1926. Pp. 32. (London: Millbank House, Millbank, S.W.1.)

Spisy vydávané Přírodovědeckou Fakultou Masarykovy University (Publications de la Faculté des Sciences de l'Université Masaryk). Čís. 64: Oblastní odtoková mapa Moravy (Carte géographique du débit d'eau relatif de la Moravie). Napsal Dr. Fr. Koláček. Pp. 13+1 tab. Čís. 65: "Tanytarsus connectens." Par Dr. Jan Zavřel. Pp. 47+1 tab. Čís. 66: Morfologický vývoj Hlučínska (The Morphological Development of Hlučín). Napsal Dr. Fr. Vitásek. Pp. 38+1 tab. Čís. 67: Terasy dolní Svitavy a dolní Svratky (Les terrasses de la Svitava inférieure et de la Svratka inférieure.) Napsal Fr. Říkovský. Pp. 17+3 tab. Čís. 68: O absorpci chlorovodíku a kysličníku siřičitého v kyselině sírové a v kyselině octové [Pokračování] (On the Absorption of Hydrogen Chloride and Sulphur Dioxide in Sulphuric Acid and Acetic Acid [Continuation].) Napsal Václav Čupr. Čís. 69: O *W*-kongruencích s fokálními plochami přímkovými (Sur les congruences *W* dont les surfaces focales sont réglées). Napsal J. Klapka. Pp. 31. (Brno: A. Píša.)

Sborník Vysoké Školy Zemědělské v Brně (Bulletin de l'École supérieure d'Agronomie, Brno). Sign. C1: Oxydimetrické studie o antimonu (Oxydimetric Studies on Antimony). Napsal Prof. Dr. J. Knop. Pp. 22. Sign. C2: O gravimetrickém poměru mezi antimonem a antimontetroxydem (Observations on Gravimetric Proportion between Antimony and Antimony-Tetroxide). Napsal Prof. Dr. J. Knop. Pp. 10. Sign. C3: Implantace volných fragmentů kostních pomocí omenta u psů (Implantation des fragments osseux libres à l'aide de l'omentum chez les chiens). Napsal Prof. Dr. Theodor Dohnal. Pp. 18+5 tab. Sign. C4: Studie o změnách, zvláště analytických konstant tuku máselného, vlivem paprsků ultrafialových (A Study of the Changes, particularly of Analytical Constants of Butter Fat, under the Influence of Ultraviolet Rays). Napsal Dr. Josef Špinka. Pp. 38. Sign C5: Příspěvek k poznání nutritivního významu látek ve vodě rozpuštěných pro vodní zvířata (A Contribution to the Knowledge of the Nutritive Importance of the Substances dissolved in Water for Water-Animals). Napsal Dr. Jan Podhradský. Pp. 53+3 tab. Sign. C6: Stupňování vzrůstu zvířat vitaminovými preparáty z obilních klíčků (Stimulation de la croissance des animaux par les préparations des vitamines des germes du blé). Napsal Dr. Jaroslav Kříženecký a Dr. Jan. Podhradský. Pp. 60+16 tab. Sign. D1: Rok hladu u Abies Nordmanniana Lk. 1 Část: Varianty jehlic (A Year of Hunger at Abies Nordmanniana Lk. 1 Part: The Variants of Spines). Napsal Prof. Dr. Otakar Vodrážka. Pp. 13+1 tab. Sign. D2: Synthesa škrobu u různých rostlin za přítomnosti solí vápníku a sodíku: Fysiologicko-oekologické výzkumy (The Synthesis of Starch in different Plants under Presence of Salts of Calcium and Sodium: Physiologic-œcological Researches). Napsal Prof. Vasil Sergějevič Iljin. Pp. 27. Sign. D3: Nové rody Lycoriid (s bezkřídlými samičkami) z lesní půdy (Genres nouveaux des Lycoriides (avec des femelles aptères) du sol de forêts). Napsal Antonín Vimmer. Pp. 16+1 tab. (Brno: A. Píša.)

Diary of Societies.

MONDAY, JULY 5.

ROYAL INSTITUTION, at 5.—General Meeting.

CONFERENCES.

MONDAY, JULY 5.

ROYAL SANITARY INSTITUTE (at Guildhall), at 3.—Right Hon. Neville Chamberlain: Inaugural Address.

TUESDAY, JULY 6.

ROYAL SANITARY INSTITUTE (at Mansion House, Central Hall, and Institution of Civil Engineers), at 10.—Sections A (Sanitary Science and Preventive Medicine), C (School Hygiene). Discussions: Sanitary Authorities; Engineers and Surveyors; Sanitary Inspectors.

WEDNESDAY, JULY 7.

ROYAL SANITARY INSTITUTE (at Caxton Hall, Central Hall, and Guildhall), at 10.—Sections A (Sanitary Science and Preventive Medicine), E (Hygiene of Food), F (Hygiene in Industry). Joint Session with Maternity and Child Welfare Conference. At the Royal Sanitary Institute, at 3.—Prof. C. E. A. Winslow: Appraisement of Health Administration.

THURSDAY, JULY 8.

ROYAL SANITARY INSTITUTE (at Central Hall and Institution of Civil Engineers), at 10.—Sections B (Engineering and Architecture), D (Personal and Domestic Hygiene). Discussions: Port Sanitary Authorities; Veterinary Inspectors.

FRIDAY, JULY 9.

ROYAL SANITARY INSTITUTE (at Central Hall and the Institution of Civil Engineers), at 10.—Section B (Engineering and Architecture). Discussions: Medical Officers of Health; Veterinary Inspectors; Health Visitors.