Societies and Academies.

PARIS.

Academy of Sciences, July 23.—**G. Bigourdan**: Some sunspot observations hitherto unpublished, made at the Paris Observatory from 1683 to 1719 by Ph. La Hire and by G. Ph. La Hire.—**L. Blaringhem**: The fertility of *Hemerocallis fulva*.—**P. Helbronner**: The figure of the earth deduced from the measurement of the arc of the meridian of the French Alps.—**Léon Pomey**: The theory of algebraical curves.—**E. Cartan**: The Betti numbers of spaces of closed groups.—**Silvio Minetti**: An upper limit of the increase of the maximum modulus of an integral function of finite genus.—**R. Duchêne**: The influence of lead tetraethyl on the deflagration of gaseous hydrocarbon mixtures. The effect of the addition of 5 per cent of lead tetraethyl to a hexane–air mixture, and the photographs of the flame produced on explosion, point to the fact that the lead compound exerts an antidetonating action in a homogeneous gaseous mixture.—**L. d'Azambuja**: Images of the solar chromosphere obtained in the spectroheliograph with the infra-red line $\lambda 8542$ of ionised calcium.—**Louis Pirot**: Determinations of astronomical positions by means of the prism astrolabe.—**A. Launert**: The action of mixtures of salts on copper. The mixtures used were potassium and strontium chlorides, potassium and barium chlorides, barium and strontium chlorides. Rods of copper were heated in these mixtures to temperatures below the eutectic points (530° C. to 725° C.), and the changes in the density and electrical resistance of the metal measured.—**R. Jouaust**: The phenomena of propagation of radiotelegraphic waves. The phenomenon of the aurora has been explained as being due to ionisation at a great altitude (200 km. to 400 km.) caused by particles emanating from the sun. It is suggested that this same ionised layer is responsible for the reflexion downwards of the electromagnetic waves.—**F. Bedeau** and **J. de Mare**: The stabilisation of the oscillations of relaxation.—**Maurice Lambrey**: The absorption spectrum of nitric oxide. Completion of work discussed in an earlier communication.—**Paul Soleillet**: The polarisation of the resonance radiations of cadmium.—**Jean Becquerel**: The existence, for a uniaxial crystal, of two different magnetic rotatory powers, along the axis and along a normal to the axis.—**Armand de Gramont** and **Georges Mabboux**: Applications of ultra-microscopic illumination to the bubble of a spherical level.—**Jean Thibaud**: The refractive index of glass for X-rays of great wave-length.—**L. Mallet**: The spectral study of the luminescence of water and carbon disulphide submitted to the gamma radiation.—**G. Allard**: An allotropic state of silver. Ordinary silver has been shown by the X-ray method to be cubic. The silver obtained by the action of copper upon a solution of silver nitrate examined by the powder method gives a series of lines quite incompatible with a cubic structure and has proved to be orthorhombic.—**René Delaplace**: The gaseous contraction of hydrogen submitted to the electric discharge. Previous work on this subject has led to the suggestion that the abnormal contractions observed are due to a polymerisation of the hydrogen. In the experiments described the discharge tubes were made of Pyrex glass, without tap or ground joint, and cleaned by heating in a vacuum to 400° C. A contraction was observed, but the presence of methane and of carbon monoxide was proved.—**André Léaute**: Results of briquetting coal by means of hydrocarbons partially dehydrogenated by sulphur.—**Arakel Tchakirian**: The volumetric estimation of germanic acid: studies of some hydrated forms of this acid and its salts.—**Adolphe Lepape**: The separation of krypton and xenon from atmospheric air. In preparing krypton and xenon by the slow evaporation of liquid air, the yields are extremely small owing to the fact that as the liquid phase diminishes the proportion of the two gases escaping with the oxygen increases. A method of reducing these losses is given. A litre of xenon and several litres of krypton have been prepared.—**R. Levaillant**: A new method of preparing alkyl sulphates. The reaction proposed is

$$Cl\,.\,SO_2\,.\,OR + NO\,.\,OR' = SO_2(OR)(OR') + NOCl,$$

in which R and R′ are alkyl groups.—**A. Morel** and **P. Preceptis**: The reciprocal actions of picric acid and cycloglycylglycine.—**G. Delépine**: The age of the grits of Naranco (Asturia). The fauna of these ferruginous grits clearly points to their age as middle Devonian.—**R. Esnault-Pelterie**: The law of the constitution of the atmosphere. A discussion of the formulæ proposed for giving the density of the air as a function of the altitude.—**N. P. Péntcheff**: The rare gases of thermal springs and the earthquakes of April 14 and 18, 1928, in Bulgaria. Although the amount of water issuing from the springs was changed by the earthquakes, the proportions of helium and argon remained the same.—**V. Ghimpu**: Contribution to the caryological study of the genus *Medicago*.—**Maresquelle**: The respiratory exchanges of plants attacked by the Uredineæ.—**Laurent Rigotard**: Alpine agronomy applied to the study of the formation of arable soils.—**E. Miège**: The presence of forms of the Inflatum type in *Triticum durum*.—**V. Pertzoff**: The lipase of the caterpillars of *Galleria mellonella*.—**F. Rathery, R. Kourilsky,** and **Mlle. Yv. Laurent**: Insulin, folliculin, and glycæmia in the normal dog.—**Philippe Fabre**: Electrocardiography by means of commercial oscillographs.—**Edm. Sergent, A. Donatien, L. Parrot, F. Lestoquard**: The transmission of bovine piroplasmosis to *Theileria dispar* of north Africa by the tick *Hyalomma mauritanicum*.—**E. Marchoux**: Man is less sensitive than *Macacus rhezus* to the virus of yellow fever.—**J. Bridré, A. Donatien,** and **D. Hilbert**: Stovarsol, a specific against contagious agalaxy of the sheep and goat.

LENINGRAD.

Academy of Sciences (*Comptes rendus*, No. 13).—**B. I. Dolbeshkin**: The occurrence of *Ædes esœnsis* Jam. in Orenburg.—**B. I. Dolbeshkin**: Fauna of mosquitoes of the Dnieper basin. A list of species with localities.—**V. V. Gorickaja**: The problem of infection of *Anopheles maculipenis* by malarial plasmodia under natural conditions. Dissections of mosquitoes collected in different habitats showed that the percentage of mosquitoes infected with malarial plasmodia is higher in houses than in stables; the presence of subjects suffering from malaria is reflected in a higher percentage of infected mosquitoes.—**L. V. Burakova**: Mosquito fever and mosquitoes of Crimea. A preliminary report of the expedition for the study of the papataci fever and the distribution of *Phlebotomus spp.* in Crimea.—**N. I. Chodukin**: Does *Anopheles algeriensis* (Theob.) exist in Turkestan? Turkestan mosquitoes recorded as *Anopheles algeriensis* var. *turkestanicus* belong to the species *A. bifurcatus* L.—**N. I. Chodukin**: Kala-azar in Tashkent and its relation to the epidemiology of the leishmaniasis of dogs. All the foci of kala-azar in Tashkent have been found to coincide with the foci of dog leishmaniasis, and it is suggested that the infection is transferred not by fleas, but probably by mosquitoes.—**E. N. Pavlovsky, A. K. Stein,** and **P. P. Perfiliev**: Experimental studies on the active principles of saliva of *Culex pipiens* on the skin of man. Saliva is more active than extracts from the œsophagal bladders.

SYDNEY.

Linnean Society of New South Wales, June 27.—**A. B. Walkom**: Fossil plants from the Upper Palæozoic rocks of New South Wales. Four species of fossil plants are described from the Kuttung Series, namely, *Ulodendron minus*, *Stigmaria ficoides*, a new species of *Pitys* (?), and a new species of *Lepidodendron* similar to *L. spitsbergense*. These plants indicate that the flora of the Kuttung Series is related to floras of Lower Carboniferous age in the northern hemisphere. A new species of *Dadoxylon* is described from the Ravensfield sandstone, in the Lower Marine Series.—**T. L. Bancroft**: On the life-history of *Ceratodus* (*Epiceratodus forsteri*). During a period of seventeen years many thousands of *Ceratodus* have been hatched, but the author only succeeded in rearing two past the critical three months' stage. The secret of successfully negotiating this stage has now been discovered, and a description of the technique is given. The great importance of this lies in the fact that conditions for favourable propagation of *Ceratodus* no longer exist in the Burnett River, and the fish must be gradually nearing extinction in that river.—**J. R. Malloch**: Notes on Australian Diptera. No. 14. This part deals with Asilidæ (subfamilies Laphrinæ and Dasypogoninæ), Chloropidæ (one subgenus and three species of *Parahippelates* are described as new, and a key is given to the species of that genus), Lonchæidæ (a key is given to the species of *Lonchæa*, one species is described as new, and notes are given on other species), Sepsidæ (one genus and one species are described as new) and Piophilidæ (one genus and one species are described as new).—**A. B. Walkom**: Lepidodendroid remains from Yalwal, N.S.W. Lepidodendroid stems from Yalwal are referred to two species (described as new) of *Protolepidodendron* and one species of (?) *Lepidodendron*. The former show resemblances to *P. primævum* from the Upper Devonian of New York, and support the reference of the Yalwal rocks to the Devonian.—**C. P. Alexander**: The Australasian species of the genus *Nemopalpus* Macquart (Diptera, Psychodidæ). A second species of the genus is described from the Dorrigo Plateau in New South Wales. Keys are given for the recognition of the subfamilies of Psychodidæ, the genera of Bruchomyinæ and the species of *Nemopalpus*.—**H. J. Carter**: Revision of the Australian species of the genera *Curis*, *Neocuris*, and *Trachys*, together with notes and descriptions of new species of other Coleoptera. Amongst the Buprestidæ four species are described as new, many notes on synonymy are given, and the results of critical examination of recent work by Dr. Obenberger are recorded. One genus and six species of *Tenebrionidæ*, five species of *Cistelidæ* and one species of *Cerambycidæ* are also described as new.

VIENNA.

Academy of Sciences, June 21.—**P. Gross** and **K. Schwarz**: The separating action of salts. An inquiry into the distribution of acetone and of hydrocyanic acid between benzol and aqueous solutions of electrolytes and some non-electrolytes.—**P. Gross**: The action of neutral salts.—**A. Müller** and **E. Rölz**: A new preparation of 1, 5-dioxy-*n*-pentane (pentamethyleneglycol) and 1, 5-diiod-*n*-pentane.—**R. Weiss**: Researches on the preparation of acridone derivatives.—**R. Weiss** and **E. Merksammer**: A new synthesis of cumarin derivatives.—**E. Blumenstock-Halward** and **E. Jusa**: The colour deepening action of the methyl-mercapto group in azo dyes (1).—**E. Blumenstock-Halward** and **E. Riess**: The colour deepening action of the methyl-mercapto group in azo dyes (2).—**G. Koller** and **E. Strang**: A synthesis of 2,4-dioxy-6,7-benzo-1,8-naphthydrin-3-carbonic acid-methylester.—**A. Tornquist**: The system of lead-zinc-pyrites mineralisation in the hills of Graz.—**A. Kieslinger**: Geology and petrography of the Kor Alps. (7) Eclogite and amphibolite. (8) Para-rocks.—**A. Musger**: Etiology of Nicholas-Durand-Favre's disease. Apparently it is due to coryne bacteria.—**E. Haschek**: A contribution to the Young-Helmholtz theory. The hypothesis of three visual substances in the retina with separate photochemical sensitivities and regeneration constants.—**L. Holzer**: The determination of Lebesgue's measure of linear point manifolds the elements of which are given by systematic development.—**L. Hajek**: New recording apparatus of the Vienna phonogram archives.—**Z. Dische**: The nature of the albumen-fixed plasma sugar. The sugar was from horse blood and includes a non-dialysable blood-sugar partly an easily fermentable *d*-mannose and partly a non-fermentable sugar.—**A. Zinke**, **A. Dadieu**, **K. Funke**, and **A. Pongratz**: Researches on perylene and its derivatives (17).—**A. Pongratz**: Researches on perylene and its derivatives (18).—**O. Dischendorfer**: A disintegration acid of *α*-naphthol.—**K. Przibram**: Contributions to the coloration of salts. Crystals from molten rocksalt show blue coloration under sufficient pressure.—**C. Doelter** and **H. Hueber**: The colouring substance in blue rock-salt. Chemical inquiries as to alkalinity with phenolphthalein.—**O. Grube**: On numbers prime to each other and the sums of their powers.

Official Publications Received.

BRITISH.

The Tea Research Institute of Ceylon. Bulletin No. 2: Annual Report for the Year 1927. Pp. 43. (Kandy, Ceylon.)

The Quarterly Journal of the Geological Society. Vol. 84, Part 2, No. 334. Pp. xlix-cv+179-381+13 plates. (London: Longmans, Green and Co., Ltd.) 7*s*. 6*d*.

Apia Observatory, Samoa. Report for 1924. Pp. 84. (Wellington, N.Z.: W. A. G. Skeinner.)

British Association for the Advancement of Science, Glasgow Meeting, 1928. Daily Time-Table: Preliminary Issue. Pp. 23+xix. Excursion Arrangements: List of Excursion Fares and Trains available during the Period from 6th to 12th September 1928. Pp. 35. Visits to Works. Pp. 20. (London.)

FOREIGN.

Journal of the College of Agriculture, Hokkaido Imperial University, Sapporo, Japan. Vol. 20, Part 5: Chemical Studies on the Ripening of Rice-seed and Chemical Properties of Rice of the Early Ripening Sub-varieties, by Tetsutaro Tadokoro; On the Differences in Physico-Chemical Properties of various Proteins in Plant Seeds. Third Report: On the Differences in the Physico-Chemical Properties of the different Kinds of Soy-bean Proteins. By Tetsutaro Tadokoro and Katsuji Yoshimura. Pp. 333-362. (Tokyo: Maruzen Co. Ltd.)

Proceedings of the Imperial Academy. Vol. 4, No. 6, June. Pp. xxi-xxiv+255-318. (Tokyo.)

U.S. Department of Agriculture: Bureau of Biological Survey. North American Fauna. No. 51: A Taxonomic Review of the American Long-tailed Shrews (Genera Sorex and Microsorex). By Hartley H. T. Jackson. Pp. vi+238+13 plates. (Washington, D.C.: Government Printing Office.) 50 cents.

Diary of Societies.

FRIDAY, SEPTEMBER 7.

PHILOLOGICAL SOCIETY (at University College), at 5.30.—Sir W. A. Craigie: Lexicography.

SATURDAY, SEPTEMBER 8.

INSTITUTION OF MUNICIPAL AND COUNTY ENGINEERS (Eastern District Meeting) (at Town Hall, Great Yarmouth), at 11.

INSTITUTION OF MUNICIPAL AND COUNTY ENGINEERS (North-Eastern District Meeting) (at Town Hall, Morpeth), at 2.

THURSDAY, SEPTEMBER 13.

CERAMIC SOCIETY (Refractory Materials Section) (at Royal Technical College, Glasgow), at 10.30 A.M.—P. Cooper: Refractory Formers for Electric Heating Elements: some Problems in the Manufacture and Use.—W. Emery: Notes on Refractories for Salt Glaze Kilns.—A. T. Green: The Functions of Regenerators in Relation to the Properties of the Refractories of Construction.