

Societies and Academies.

PARIS.

Academy of Sciences, Aug. 6.—A. Lacroix: The pegmatitoids of volcanic rocks with basalt facies.—S. Winogradsky: The oxidation of cellulose in the soil. The greater part of the work of the disintegration of cellulose in the soil is done by aerobic organisms. A method of culture is described which permits of the direct observation of the changes in the structure of filter paper brought about by the organism under examination.—V. Grignard and J. Dœuvre: Citronellol and rhodinol. The results of a quantitative study of the products of the ozonisation of rhodinol. It is concluded that the rhodinol of Barbier and Bouveault does not exist as a chemical entity in natural essential oils.—O. Borůvka: A class of minimum surfaces plunged in a space of four dimensions with constant curvature.—A. Danjon: The photometric study of the earth shine from the moon.—Pierre Leroux: Study of the influence of the temperature on the absorption of a specimen of tourmaline. The apparatus utilised for the absorption measurements consisted of a photo-electric cell with a quadrant electrometer. For temperatures not exceeding 250° C., the variation of the absorption coefficient as a function of the temperature is linear and reversible.—Minesaburo Akiyama: The condensation of water vapour on the charged atoms of actinium-A.—C. Marie and G. Lejeune: Researches on the electrolytic oxidation of organic substances.—Rangier: The condensations of glycerol. A detailed study of the products obtained by heating glycerol with fused sodium acetate at varying temperatures.—G. Vavon and N. Zaharia: The extractibility of phenols by ether starting with their alkaline solutions. It is usually assumed that a mixture of phenols with other ether soluble substances can be separated by making the mixture alkaline and extracting with ether. This is not the case, since all phenols are partly removed from alkaline solution by ether, the quantity varying with the structure of the phenol.—V. Babet: The crystallophyllian rocks of the Mayombe (French Equatorial Africa).—Henri Termier: The ankaratrites of Central Morocco.—Pierre Lamare: A type of tectonic accident affecting the lower folds of the Pyrenees of the Spanish Pay Basque.—Raymond Furon: Geological observations on the Hodh (Circle of Néma, French Sudan).—Jules Welsch: Contribution to the knowledge of the Jurassic fauna of Poitou. Oxfordian Ammonites to the south of Niort.—M. Collignon: Explosions at a great distance.—Emile F. Terroine and R. Bonnet: The modes of utilisation by the organism of the energy set free by oxidations and the problem of the food value of alcohol. It is concluded that oxidations in living organisms fall into one of two classes: in one class, of which the oxidation of glucose is the type, the energy can be utilised both for mechanical and chemical work; the other class, of which alcohol is the type, can only give rise to heat.—E. Kohn-Abrest and Lupu: The fate of hydrocyanic acid in the blood.

CAPE TOWN.

Royal Society of South Africa, July 18.—J. W. C. Gunn: A note on the skin secretion of *Xenopus laevis*. The South African clawed toad, *Xenopus laevis*, when irritated by mechanical, electrical, or chemical stimuli applied to the skin, on the inhalation of irritating gases, or after the injection of certain drugs, secretes a white viscous fluid from its skin. This consists mainly of albuminous material, but contains substances which are pharmacologically active and toxic to mammalia. A specimen of dried secretion has remained active for six years. One of the active

substances has sympatho-mimetic reactions similar to adrenaline, but does not give the chemical reactions of adrenaline. An extract from the entire skin has a similar action to that of the secretion.—J. W. C. Gunn and Louis Mirvish: A preliminary note on the pharmacological action of *Homeria collina*. This tulip is known in the Cape Province as the yellow plant or geel tulip. The material was dried, powdered, and macerated in 70 per cent alcohol for forty-eight hours. The resulting tincture was employed in the experiments. Immediately before use the alcohol was driven off and replaced by an equivalent amount of Ringer's solution. Its effects are similar to those produced by the Digitalis group of drugs.—L. Mirvish and L. P. Bosman: (1) The effect of testicular extracts on the calcium blood-level. It is only when alcoholic extracts of testes given are increased to the extent equivalent to about 200 gm. of fresh testicular substance that a drop in the blood calcium occurs similar to that caused by ovarian extract. The same hormone that is present in the ovary appears to be present in the testis, but in lesser concentration. (2) The effect of extracts of the suprarenal cortex on the calcium blood-level. Bovine suprarenals from which the medulla was removed were extracted with alcohol. The adrenaline was removed, and the alcoholic extracts purified as in the preparation of the ovarian extract. This extract, when injected into rabbits, reduced the blood calcium by about 30 per cent. The nature and extent of the drop were similar to that produced by the ovarian extract.

ROME.

Royal National Academy of the Lincei, May 6.—A. Bemporad: The astrographic catalogue of Catania.—A. Angeli: Diazo-compounds. Further data and considerations concerning the behaviour of the diazo-compounds, like those previously published, allow of a satisfactory explanation of the reactions of such compounds without the aid of the hypothesis of stereoisomerism.—J. Dubourdieu: Certain applications of the theory of geodesic co-ordinates along a curve.—L. Fantappiè: The linear functionals of functions of two complex variables (3).—Elena Freda: The propagation of stationary electric currents in a conductor subjected to the action of a uniform magnetic field.—L. Tieri and V. Ricca: Electronic emission in a vacuum tube. Results are given of experiments made to determine the relationship between the variations of the filament current and those of the electronic current as the potential difference between the filament and the plate is varied. An interpretation of these results is to be given later.—E. Fermi: The statistical deduction of certain properties of the atom: calculation of Rydberg's correction for the *S* terms (3). It has been shown previously that the whole of the electrons surrounding the nucleus of a heavy atom may be regarded as a kind of gaseous atmosphere of electrons in conditions of complete degeneration. Application to the study of this question of a statistical method permits of the determination of the distribution of the electrons round the nucleus and of the mode in which the electric potential varies inside the atom as a function of the distance from the nucleus.—C. Dei: Circuits with a thermionic valve in derived saturation on a condenser.—E. Perucca: Polarimetry and photo-electric photometry. Todeseo's photo-electric method for revealing slight traces of double refraction is useful, not so much as a means of measuring double refraction, but, as a highly sensitive zero method, to replace the eye in polarimetric and photometric measurements. The arrangement suggested by Todeseo allows of the determination of the extinction azimuth of the analyser with respect to the polariser (crossed nicols) with an accuracy of about 1.5", and is, there-

fore, at least as efficient as the best half-shadow polarimetric device.—M. Baruzzi: Further considerations on the periodic course of the mean diurnal temperature at Modena.—G. Malquori: (1) The system $\text{KCl}-\text{HCl}-\text{H}_2\text{O}$ between 0° and 80° . The presence of hydrochloric acid lowers the solubility of potassium chloride in water, but does not change the form of the curve expressing the solubility as a function of the temperature.—(2) The system $\text{AlCl}_3-\text{HCl}-\text{H}_2\text{O}$ between 0° and 80° . In the system $\text{AlCl}_3-\text{H}_2\text{O}$, the compound $\text{AlCl}_3 \cdot 6\text{H}_2\text{O}$ alone exists in equilibrium with the saturated solution from the cryohydric point to 80° . From the heat of solution of Al_2Cl_6 , $12\text{H}_2\text{O}$, in 900 molecules of water at 15.5° , determined by Sabatier, and the corresponding heat of dilution, now measured, it is calculated that the formation of a saturated solution at 20° from 1 molecule of $\text{AlCl}_3 \cdot 6\text{H}_2\text{O}$ is accompanied by the generation of +4606 cal. Just as with potassium chloride, so with aluminium chloride, the solubility is depressed by the presence of hydrochloric acid, but the solubility-temperature curve is not changed in shape.—(3) The system $\text{AlCl}_3-\text{KCl}-\text{H}_2\text{O}$ between 0° and 80° . The solubility surfaces for this system are perfectly normal, the ratio between KCl and AlCl_3 in the saturated solution exhibiting, with rise of temperature, a certain variation in the direction of enrichment with the potassium salt.—G. A. Barbieri: The cobalti-carbonates.—S. Pastorello: The stability of rhodium sesquioxide and iridium dioxide. In an atmosphere of sulphur dioxide, rhodium sesquioxide is comparatively, and iridium dioxide highly, stable. Confirmation is obtained of the view that the formation of these oxides is the cause of the depression of the catalysis of sulphur dioxide to trioxide by the presence in the platinum catalyst of rhodium or iridium.—E. Pace: Ditertiary glycols and some of their heterocyclic derivatives. Various glycols of the form $\text{CH}_3 \cdot \text{CR}(\text{OH}) \cdot \text{CH}_2 \cdot \text{CH}_2 \cdot \text{CR}(\text{OH}) \cdot \text{CH}_3$ have been prepared by the action of magnesium alkyl bromides on acetonylacetone and treatment of the resulting product with water. By the action of dehydrating agents on these compounds, tetrahydro-furfuran derivatives are formed, and by the action of alcoholic ammonia solution, tetrahydropyrrole derivatives.—N. A. Barbieri: Tabacin or the toxic principle of tobacco. Tabacin, which may be regarded as an acid-nitrogenated glucoside, is decomposed by 2 per cent potassium hydroxide solution into its components, tabacol, tabacinic acid, and sugar, and at about 110° emits irritating tabacol vapour, which causes violent sternutation, coughing, and pronounced respiratory trouble. Both tabacin and nicotine cause death in guinea-pigs in doses of 9 milligrams per 100 grams of body weight. Tabacol is a very powerful convulsant poison, which, by the rapidity with which it proves fatal when injected, recalls the combined action of hydrocyanic acid and strychnine.—Enrico Clerici: An interesting outcrop of lava at Petronella.—M. Comel: Variation in the hydrogen ion concentration of equilibrating solutions by the action of the regulating power of the tissues. Experiments with pulped muscular and liver tissue show that this tissue exerts a marked influence on the hydrogen ion concentration of regulating phosphate solution, the relation between the value of the resulting $\text{pH}(y)$ and that of the $\text{pH}(x)$ of the solution used being expressed by the straight line formula, $y = a + bx$.—M. Pennacchiotti: The significance of the degeneration of the reticular zone of the suprarenal of the new-born human organism.—Aldo Spirito: Observations on the grafting of the primary optical vesicle in *Rana esculenta* on the influence of the various embryonic stages in the subsequent differentiation.

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Official Publications Received.

BRITISH.

- New South Wales. Department of Public Instruction: Technical Education Branch. Technological Museum: Curator's Annual Report for Year ended 31st December 1927. Pp. 5. (Sydney, N.S.W.: Alfred James Kent.)
- Journal and Proceedings of the Asiatic Society of Bengal. New Series, Vol. 23, 1927, No. 1. Pp. 246+5 plates. (Calcutta.)
- Norman Lockyer Observatory. Director's Annual Report, April 1, 1927, to March 31, 1928. Pp. 8. (Sidmouth.)
- Trinidad and Tobago: Council Paper No. 67 of 1928. Conservator of Forests: Administration Report for the Year 1927. Pp. 18. (Trinidad, B.W.I.: Government Printing Office.) 8d.
- Forestry in the Colony of Trinidad and Tobago. Statement prepared by the Conservator of Forests, Trinidad and Tobago, 1923. Pp. 26. (Trinidad, B.W.I.: Government Printing Office.)

FOREIGN.

- Publicazioni della Università Cattolica del Sacro Cuore. Serie sesta: Scienze Biologiche. Vol. 4: Contributi del Laboratorio di Psicologia e Biologia. Serie Terza. Pp. v+435. (Milano: Società Editrice "Vita e Pensiero.") 40 lire.
- Scientific Papers of the Institute of Physical and Chemical Research. Nos. 145-148: On the Oxidation of Stannous Hydroxide in Sodium Carbonate Solution by Air, by S. Miyamoto; On the Oxidation of Sodium Sulphite in Sodium Carbonate Solution by Air, by S. Miyamoto; On the Oxidation of the Mixture of Stannous Hydroxide and Sodium Sulphite in Sodium Carbonate Solution by Air, by S. Miyamoto; On the Dissolution Velocity of Oxygen into Sodium Hydroxide, Sodium Carbonate and Hydrochloric Acid Solution, by S. Miyamoto. Pp. 225-245. 35 sen. No. 149: Photographic and Kinematographic Study of Photo-Elasticity. By Z. Tuzi. Pp. 247-267. 40 sen. No. 150: Electric Explosions. By H. Nagaoka and T. Futagami. Pp. 269-288+plates 25-36. 55 sen. No. 151: The Slip-Bands produced when Crystals of Aluminium are Stretched. By K. Yanaguchi. Part I. Pp. 289-317+plates 37-42. 55 sen. No. 152: The Stark Effect of Balmer Series at High Field. By Y. Ishida and S. Hiyama. Pp. 14+2 plates. 30 sen. Supplement, Vol. 8, No. 1: On the Use of Quartz Rod or Sphere for Condenser in Spectroscopy. By H. Nagaoki. Pp. 3. 10 sen. (Komagome: Iwanami Shoten.)

CATALOGUES.

- Books, Engravings, Original Drawings, Maps, etc., relating to South and Central America; with Short Lists on Cuba, Hayti, Porto Rico and Falkland Islands. (Catalogue 508.) Pp. 68+6 plates. (London: Francis Edwards, Ltd.)

Diary of Societies.

FRIDAY, SEPTEMBER 21.

- SOCIETY OF GLASS TECHNOLOGY (in St. Peter's Hall, Bournemouth), at 2.—I. Kitaigorodsky and S. Rodin: The Value of the Thermal Expansion Factor of Aluminium Oxide in Glass.—D. Starkie and Prof. W. E. S. Turner: A Study of the Ultra-Violet Light Transmission of Glass.—At 4.30.—Prof. W. E. S. Turner: Modern Art Glass (Lecture).

THURSDAY, SEPTEMBER 27.

- INSTITUTE OF BREWING (Yorkshire and North-Eastern Section) (at Queen's Hotel, Leeds).—G. P. Haworth: Barleys and Malts.

PUBLIC LECTURE.

FRIDAY, SEPTEMBER 28.

- CHARACTER BUILDERS' ASSOCIATION (45 Lancaster Gate, W.2), at 8.—T. Cooke: Characteristics of the Temperaments.

CONGRESSES.

SEPTEMBER 19-25.

- FOLK-LORE SOCIETY JUBILEE CONGRESS, 1928 (at Society of Antiquaries). Friday, Sept. 21.

- At 10 A.M. and 2.30 P.M.—
Prof. H. J. Rose: Mummings' Plays in Attica.
Prof. R. M. Dawkins: The Study of Folk-lore in Modern Greece.
Mrs. Hasluck: A New Dervish Order in Albania.
Prof. Gwynne Jones: Some Survivals of Folk-belief in Modern Wales.
M. Beza: Demetrius Contemir's Contribution to Folk-lore.
Mrs. H. H. Spoer: Hebrew Amulets.

Saturday, Sept. 22.

- Excursions to Oxford and Cambridge.

Monday, Sept. 24.

- At 10 A.M. and 2.30 P.M.—
Prof. Pettazzoni: Confession of Sins in Primitive Religions.
Dr. J. L. Myres: Paper.
Miss B. C. Spooner: The Fragments that are Left in N.E. Cornwall.
Dr. MacCulloch: The Arthurian Legend.
Miss Mona Douglas: Animals in Manx Folk-lore and Song.
R. E. Enthoven: Tree and Animal Worship in Western India.
At 8.30 P.M.—
(At Caxton Hall.) Demonstration of Folk-dances; Children's Singing-games; Folk-songs.