## Early Science at Oxford.

**August 5, 1684.** A Discourse of Sir William Petty's, concerning Land Carriages, was read.

A Discourse concerning Digestion, and ye ferment of ye stomach, drawn up by Mr. Lee of Brazennose College, was read, and will be printed in a little time.

Some Seawater sweet'ned lately by Dr. Plot, Mr. Lee, and Mr. Musgrave, was shewn ye Society, and judged to be not in ye least salt to ye tast, and fit for use.

Dr. Plot presenteu ye Society with some of ye *Pindes*, from ye Coast of Guinea; of which substance ye inhabitants make their bread, and severall meats; it seems to be a round seed: He also comunicated some sawdust of a wood from Jamaica (ye name of which as yet wee know not) which being put into cold water, did in some few minutes, tinge the water of a delicate mulberry color.

Dr. Gibbons gave ye Society an account of a well near Cambden, ye water of which (as he is informed) tinges with galls, a day, or two, after it is taken from ye spring, then intermits for eight or ten days, and after that tinges again: he promises a more full account of this matter. An Account of ye weather ye last month, taken (as usually) according to Dr. Lister's scheme, was brought in by Dr. Plot.

The Society was informed, that Mr. Lee of Brasenoze College has lately received a letter from a friend of his in Lanchashire, who lived severall years at Tangier, and assures him, that, during ye time of his stay there, he enquired into ye nature of ye current at ye Streights Mouth, by letting fall lines with weights at ye end of them, and that, which way soever ye upper Current went, ye lines were driven outwards; of which he sent this account to Mr. Lee, takeing ye occasion from what he finds printed by Dr. Smith in ye Transactions concerning this Subject; This matter will be farther enquired into, and (if possible) a relation of it be had under ye gentleman's hand.

**August 12, 1684.** Ye Minutes of ye Dublin Society, from June ye 9th, to July ye 21st, 1684, being read distinctly, and considered, it was ordered that Mr. Ash, and Mr. Molineux be desired to impart their observations on ye last solar ecclipse, to be printed with those made at Greenwich, and Oxon.

It is also desired, that Mr. K— would be pleased to comunicate an account of his Mesolabe. Ordered that Dr. Pitt be desired at his leisure to draw up, and communicate to this Society, his thoughts concerning Digestion.

Sr Wm. Petty's paper of Land carriages, read ye last Meeting, enquiring into ye reason of ye Dishing of cart-wheels, Mr. Walker was pleased to communicate these lines concerning it. (*One* reason of ye Dishing of Cart-wheels seems to be this; when one wheel falls into a Hole, or deep cartrut, so that most of ye weight lyes upon it, then ye lower part of that wheel stands more perpendicularly to ye plain of ye Horizon, and consequently bears ye weight better than if ye wheel were plain, and not dish't.)

A letter from Dr. Turberville of Salisbury was read, it gave an account of ye three following cases.

1 The *Bursa Oculi*, which was in ye white of ye eye, under ye upper lid, an empty purse, no matter in it, and hung flagg about ye length of a thumb nail.

2 Another had no visible disease in his eyes, but could not see at all without squeezing his nose with his fingers, or saddling it with narrow spectacles, and then he saw very well: him ye Doctor carried to Mr. Boyl. 3 Another from Banbury, a Maid of 22 or 23 years old, could see very well, but no color, besides black and white. She saw Scintillations by night, that much terrified her.

## Societies and Academies.

LONDON.

**Royal Anthropological Institute,** June 9.—Shams-ul-ulama Dr. Jivanji Jamshedji **Modi**: The daily life of a Parsee of the seventeenth century, as described in the Persian Farziât-nâmeh of Dastur Darab Pâhlan. The daily religious duties began with early rising at the crowing of the cock (a sacred bird, not to be killed for food, and even requiring a kind of sacred burial), followed by a recital on, or very near, the bed, of Ashem Vohu, a sacred formula of prayer in praise of Asha (Sanskrit *rita*; English, right). This was followed by the application, on the exposed portions of the body, of *nirang* or *gaomiz*, *i.e.* the urine of a cow (*gao*), held by the ancient Aryans as a purifying substance. The application was followed by an ordinary ablution or, in special cases, by a bath. This was followed by a prayer, and there were five periods during the day for such obligatory prayers. The ablution or bath was accompanied by the untying and re-tying of the *kusti*, or sacred thread, which a Parsee had always to put on, on a sacred shirt, as symbols of his religion. The ablutions with the requisite ritual were required after calls of nature and before meals, which began with the recital of grace. A morsel was set apart for the dogs of the house or street, semi-sacred animals useful for various purposes. For his daily diet meat may be used as little as possible, and, for that purpose, not healthy but weak animals were to be killed. It was his duty to kill noxious creatures such as serpents, scorpions, mice, and the like. All kinds of scepticism in religious matters were to be avoided. A serious and solemn view of all daily actions had to be taken, and recitals of prayers for the blessing of God upon them were required. The day ended with a recital of prayers.

**Linnean Society,** June 11.—W. **Bateson**: Pelargoniums and the production of bud-sports. Sports are probably due to the emergence of a distinct, previously existing component, originally formed by somatic segregation at an early stage. Not very rarely the hidden component, perhaps most often a dominant, forms the central core of a periclinal system, emerging regularly in buds formed adventitiously on roots of inverted plants. Not improbably the whole root belongs to the inner component. Mosaic chimæras with islands showing a dominant also occur. A growing point arising in such an island forms a periclinal with the dominant external. The core on emergence is frequently still mosaic.—F. **Eyles**: Remarks on the flora of Southern Rhodesia. The type occupying a larger area than any other is the open forest, with trees widely spaced, not often exceeding 50 ft. in height, with a sparse undergrowth. From the ecological point of view, water is the chief controlling factor: the edaphic influence is also considerable; while temperature has less effect on distribution, owing to the relatively small degree of local and seasonal variation. Rainfall occurs in two clearly defined seasons, namely, six months of wet season and six months of dry season; therefore all perennials must be adapted to face and survive six months of drought every year. This necessity is met in the usual way.—W. **Garstang**: On the origin of the crustacean carapace. The cephalic shield is regarded as having arisen as a larval organ, in response to larval needs. It is assumed that the proximate ancestors of Crustacea, prior to the development of a cephalic shield, were essentially trilobites of lower Cambrian type, and that the larvæ were discoidal and fitted only for

flotation. Thus the so-called "typical" nauplii of Copepoda, etc., with powerful rowing antennæ, are less primitive than the discoidal small-limbed nauplii of Limnetis and Cirripedia. On the development of post-cephalic segments, the trunk-rudiment sinks below the plane of the head, and the head repairs the breach in its suspensory disk by an outgrowth from behind. This is claimed to have been the origin of the carapace—a larval adaptation to lengthen the pelagic phase. Finally, on the larvæ sinking to the bottom, the carapace, as a result of its successive adaptations to pelagic conditions, was a structure big enough to be made use of for a variety of modes of adult life.

**Mineralogical Society**, June 16.—A. **Hutchinson**: (1) The use of the stereographic protractor for the interpretation of Laue crystal photographs. By a slight modification, the stereographic protractor previously designed by the author can be used for the interpretation of Laue photographs. (2) The use of alignment charts in crystal optics. The alignment charts in common use amongst engineers can be applied to the calculation of refractive indices measured on the total refractometer.—H. E. **Buckley** and W. S. **Vernon**: The crystal-structures of the sulphides of mercury. The powder method of X-ray analysis showed that the precipitated black sulphide is cubic, with the symmetry of the natural metacinnabarite and with an arrangement of atoms like that of zinc blende, $a = 5{\cdot}85$ Å.U., $d$ (Hg-S) $= 2{\cdot}54$ Å.U. In cinnabar the arrangement of the mercury and sulphur atoms is a rocksalt one, slightly compressed along the trigonal axis and with a slight readjustment of atoms parallel to the basal plane, $a = 4{\cdot}16$ Å.U., $c = 9{\cdot}54$ Å.U., $c/a = 2{\cdot}291$. The type of movement in best agreement with the symmetry is $D_3^4$. In cubic mercuric sulphide each atom has four oppositely charged neighbours at a distance of 2·54 Å.U., while in cinnabar two neighbouring atoms are situated at a distance of 2·54 Å.U., as in the cubic mercuric sulphide, and two others at a distance of 2·91 Å.U. These facts indicate an eccentricity of the mercury atom if the sulphur atoms are regarded as spherical. In cinnabar, in accordance with the circular polarisation, sulphur atoms run down through the structure in trigonal spirals.—Edmondson **Spencer**: Albite and other authigenic minerals in limestone from Bengal. The limestones of Cuddapah age near Raipura, Bengal, contain well-formed crystals of pure albite, apparently authigenic in origin. The crystals are tabular on the brachy-pinakoid and are lozenge-shaped. They are twinned on Carlsbad and albite laws similarly to those of the well-known Roc-tourné type, but of different habit. Accompanying the albite are phlogopite, tourmaline, and quartz crystals, all believed to be authigenic. Comparisons are instituted with similar occurrences of felspars in limestones from various European localities.—Robert **Campbell** and J. W. **Lunn**: Chlorophæite in the dolerites (tholeiites) of Dalmahoy and Kaimes Hills, Edinburgh. The dolerites of Dalmahoy and Kaimes Hills are exceptionally rich (up to 15 per cent. or more) in chlorophæite, which occurs as a vesicle mineral, as veins, and as pseudomorphs after fayalite. The mineral has a refractive index 1·498, hardness 1·5, and density 1·81; it has no cleavage and is isotropic. It shows on exposure a striking colour change from bright olive-green to black, due to rapid oxidation. From its physical and chemical characters the mineral is regarded as of a colloidal nature.—L. J. **Spencer**: Tenth list of new mineral names; with an index of authors.

**Royal Meteorological Society**, June 17.—J. E. **Clark**, I. D. **Margary** and R. **Marshall**: Report on the phenological observations in the British Isles from December 1923 to November 1924. In this thirty-fourth report, 365 sets of records are discussed, compared with about 120 before 1922; the N.W. half of Ireland and most of West and North Scotland are still practically bare. The year was described officially as "Dull and very wet with a very cloudy summer." Again it began mild, the four weeks to February 10 averaging 6° warmer than the succeeding four. Sudden heat-bursts again raised false hopes, and made the records of plants, insects and birds again erratic. Almost everything was much later than in 1923, and on the 30 years' average, flowers in the E. and S.E. were one to two weeks late; N. England and Scotland still more. Yet the hazel was early; blackthorn, eleven days behind in S. Britain, latest of all. Insects, appearing later, ranged from 18 days late for the honey bee to three only for the Orange Tip, with the Meadow Brown in June a week early: so too the migrants. Vegetable growth was exceptionable, and little troubled by insect plagues, though slugs, snails and fungoid troubles were bad. Tree fruit was scarce and of poor quality. Grain and hay were saved with difficulty; potatoes were often diseased, but green crops and roots were some compensation.—D. N. **Harrison** and G. M. B. **Dobson**: Measurements of the amount of ozone in the upper atmosphere. Following the general method of Fahy and Buisson, the amount of ozone present in the atmosphere has been measured by spectroscopic means. A marked connexion is found between the amount of ozone and the general pressure distribution at the surface, and a still closer connexion with the conditions at about 10 km.—J. **Baxendell**: Meteorological periodicities of the order of a few years, and their local investigation; with special reference to the term of 5·1 years in Britain. The following meteorological periodicities seem to be established: 5·1, 3·1, 2·8, 2·4, 2·2, and 1·63 years. Working on foreign and feebler English cycles, several of the shorter terms appear to be exact half-harmonics of certain of the longer ones; while there are also third-harmonic components. The 5·1-year term was found at Southport in the 'eighties, and has since been independently detected by five investigators elsewhere, two of whom have traced it back for three centuries. It is especially pronounced in the frequency of the colder wind-directions, in Lancashire and at Greenwich; but values for the term in rainfall, temperature, air pressure, severe winters, and other data, are also given.

**Geological Society**, June 24.—W. J. **Sollas**: On a sagittal section of the skull of *Australopithecus africanus*. Sagittal sections of the skulls of the anthropoid apes, the Hominidæ, and the Taungs skull, show that the last-named presents numerous and important characters, by which it differs from the anthropoids and makes some approach towards the Hominidæ. The claims of Australopithecus to generic distinction are justified.—D. **Parkinson**: The faunal succession in the Carboniferous Limestone and Bowland Shales at Clitheroe and Pendle Hill. The rocks form that portion of the south-eastern limb of the Clitheroe anticline which is included between the Twiston and Clitheroe faults, along with most of the scarp-face of Pendle Hill. The lowest beds appear to be of Z age, but the junction of Z and C is an uncertain horizon. The knoll-limestones pass laterally into shales and crinoidal limestones. The Worston Shale series is overlain by the *hodderense* goniatite-band, which forms a constant feature along the foot of Pendle Hill. The Pseudobilinque zone terminates below the Pendle Grit, where another goniatite (possibly *H. leion*) appears, and forms a continuous horizon just below the grit. It is suggested that the

base of the Upper Carboniferous should be drawn here. The Worston shales appear to have been deposited on a very uneven sea-floor, the irregularities being due to the mode of accumulation of the limestones, and not to interformational uplift and erosion.—Miss J. M. M. **Dingwall**: Cyathoclisia: a new genus of Carboniferous corals. Certain Tournaisian corals of limited range, which are fairly abundant in certain localities in the south-west of England and South Wales, are described. These forms agree with Clisiophyllum in their general features, but differ so markedly from the Viséan species of the genus in structural details that it has been assigned the new generic name, Cyathoclisia, suggested by Dr. W. D. Lang. The members of this genus are simple rugose corals. One species, *C. tabernaculum*, shows remarkable variability; it appears to have a limited distribution, both horizontally and vertically. So far as is known, it is confined to the south-western province of the Carboniferous Limestone. Cyathoclisia may have been developed from Palæosmilia.

## PARIS.

**Academy of Sciences**, June 29.—A. **Lacroix**: The meteorites of Tuan Tuc (June 30, 1921) and of Phu Hong (September 22, 1887) in Cochin China. In the Tuan Tuc fall there were two meteorites found at a distance of 40 kilometres apart. These were similar, being olivine and hypersthene chondrites. The Phu Hong meteorite was a chondrite containing olivine and bronzite.—H. **Deslandres**: Complementary researches on the structure and distribution of band spectra.—G. **Bigourdan**: The topographical influences which affect the pendulum corrections employed at the B.I.H.—A. **Haller** and R. **Cornubert**: The constitution of dimethylcyclopentanone and of dimethylcyclohexanone in which alkyl groups have been introduced by the sodium amide method.—Gabriel **Bertrand** and M. **Mâchebœuf**: The proportions of cobalt contained in the organs of animals. Cobalt is found along with nickel in the organs of man and animals. Numerous data are given, together with the methods adopted for the determinations. The mode of distribution of the cobalt in the various organs is approximately parallel to that of nickel.—Charles **Richet**, Eudoxie **Bachrach**, and Henry **Cardot**: The hereditary fixation of acquired characters, proved by the stability of the displaced thermal optimum. After cultivating the lactic ferment over a long period in a medium containing a large proportion of potassium chloride, a lactic bacillus is obtained possessing two new characters; resistance to potassium chloride is increased and the thermal optimum is strongly displaced in the direction of a higher temperature. These acquired characters have proved to be stable.—Rollet de l'**Isle**: The method of elaboration and of publication of international scientific and technical vocabularies.—R. H. **Germay**: The periodic integrals infinitely near partial differential equations of the first order.—Armand **Cahen**: The continued fractions attached to operations about one unit above or below.—Léon **Pomey**: The determination of the integrals of differential equations by general initial conditions.—J. L. **Walsh**: The position of the roots of integral functions of genus one and zero.—D. **Menchoff**: The summation of series of orthogonal functions.—G. **Fayet** and A. **Schaumasse**: The next return of Borrelly's periodic comet (1905 II. = 1911 VIII. = 1918).—André **Planiol**: The calculation of the yield and heat balance of explosion motors.—Louis **Breguet**: The output from apparatus utilising the energy of the wind.—G. **Bouligand**: An approximate method for studying the movement of certain vortex rings.—A. **Marcelin**: Superficial solutions and the law of Gay-Lussac.—René **Delaplace**: The extension of the law of Gay-Lussac to superficial solutions.—L. **Riéty**: The electromotive force of filtration. Aqueous solutions (1 per cent.) of various iron salts, forced through a glass tube under a pressure of 25 atmospheres, gave rise to potential differences between −0·070 volt and +0·21 volt. The results are discussed from the point of view of the rules given by Perrin. The solubility of the glass and the hydrolysis of the salts employed influence the sign of the electric charge.—E. **Delcambre** and R. **Bureau**: The propagation of short (Hertzian) waves. Details of the peculiarities noted for distances between 1500 and 10,000 kilometres in the propagation of short waves emitted by a transmitting station installed on the vessel *Jacques-Cartier*.—A. **Perot** and M. **Collinet**: The variation of the wave-length of the absorption lines of iodine with the density. The same weight of iodine was placed in two tubes of the same diameter but of different length, both being heated in the same electric furnace to 180° C. The variation of the wave-length was measured by a new interference method.—Pierre **Daure**: The determination of Avogadro's constant by means of the light diffused by ethyl chloride. The value found was $N=(6\cdot5\pm0\cdot65)10^{23}$.—R. de **Mallemann**: The diffusion of light and Kerr's constant.—L. **Meunier** and André **Bonnet**: The fluorescence of fisetine in Wood's light applications. Certain bark extracts taken up on acetyl cellulose give a characteristic fluorescence in Wood's light. The reaction has applications in analysis.—J. **Laissus**: The cementation of iron alloys by chromium.—R. **Hugues**: The annealing of electrolytic iron in a vacuum. The iron was heated in an electric furnace specially designed to reduce leaks due to porosity. Data are given showing the amount and composition of the gases evolved, and changes in magnetic and mechanical properties.—Gérard H. **Lafontaine**: Contribution to the study of the equilibrium of magnesium carbonate in ammoniacal solutions.—A. P. **Rollet**: The solution of nickel in sulphuric acid under the influence of the alternating current.—J. **Errera** and Victor **Henri**: The quantitative study of the ultra-violet absorption spectra of the dichlorethylenes. The *trans* derivative absorbs more than the *cis*, and the difference increases for the shorter wave-lengths. The absorption differences are the same in the pure liquids as in solution in hexane or in alcohol.—L. **Royer**: The regular joining of crystals of different species.—E. **Rothé**, J. **Lacoste** and Ch. **Bois**: Seismological observations made on the occasion of a violent explosion. Advantage was taken of the detonation of 3250 kilograms of high explosive in a mine to carry out seismological observations with two types of apparatus, a seismograph of the Mainka type installed in a mine five kilometres from the place of the explosion, and a 19-ton pendulum recently set up in Strasbourg seismological station 142 kilometres from the explosion. The latter instrument gave 2600 metres as the velocity of wave transmission.—P. **Lavialle**: The nutrition of the embryonic sac in *Knautia arvensis*.—Raoul **Combes**: The migration of nitrogenous substances from the leaves to the stems in the course of autumn yellowing.—F. van **Gaver**: Concerning the bony head and dentition of a young Asiatic elephant.—Emile F. **Terroine**, Mlle. S. **Troutmann** and R. **Bonnet**: The energy yield in the growth of micro-organisms as a function of the concentration of the nutritive substances of the medium and the food excess present.—Mme. L. **Randoin**, J. **Alquier**, Mlles. **Asselin** and **Charles**: The food equilibrium and relative proportions of mineral salts and glucides of a ration.—L. J. **Henderson**: The application of the nomographic method to the study of the

respiratory phenomena in the blood.—**Caridroit** and **Pézard**: The autonomous testicular growth in the interior of autoplastic ovarian grafts in the domestic fowl.—S. **Kostytschew** and A. **Ryskaltchouk**: The products of the fixation of atmospheric nitrogen by *Azobacter agile*. The experiments lead to the conclusion that the Azobacter produces ammonia by the direct reduction of atmospheric nitrogen: the ammonia is afterwards utilised for the synthesis of amino acids.—A. **Blanchetière**: The colour reactions of tryptophane with aldehydes.—Raymond **Hamet**: A new case of inversion of the effects of adrenaline.—René **Fabre** and Mlle. E. **Parinaud**: Study of the dissociation of the salts of narcotine and the best conditions for the extraction of this alkaloid in toxicology. It is possible to extract with organic solvents the whole of the narcotine from solutions of its salts. This is due to the marked dissociation of the salts in solution.—**Vernadsky**: The pressure of living matter in the biosphere.—L. **Fage** and R. **Legendre**: The swarms of a polychetal annelid (*Polyophthalmus pictus*) observed while fishing with a submerged light.—Arthur **Grimberg**: The treatment of external tuberculosis by a colloidal extract of Koch's bacilli. Details of the treatment are given; it has cured more than 50 per cent. of the cases and improved the condition of a further 25 per cent.—Et. **Burnet**: The differentiation of Paramelitensis by flocculation under the action of heat.

CALCUTTA.

**Asiatic Society of Bengal**, May 6.—C. J. **George**: Root sucking aphids of Coimbatore.—C. **Chilton**: The Amphipoda of Tale Sap. This is an instalment of the "Zoological Results of a Tour in the Far East." Eleven species are examined. Of these nine are the same as those from the Chilka Lake. One species is described as new. Two additional species from other localities are included in the report: one, *Grandidierella gilesi* from Patani River, a short distance to the south, on the same coast as Tale Sap; the other, *Colomastix pusella*, from Port Weld, on the other coast of the Peninsula.—D. N. **Majumdar**: The traditional origin of the Hos, together with a brief description of the chief Bongas (Gods) of the Hos.—Hem Chandra **Das-Gupta**: A few types of sedentary games prevalent in the Central Provinces. The plays described are *atharaguliala teora, dash-guli, gol-ekuish, kaooa*, and *sat-gol*, and the description is based chiefly on the information gathered from a few villagers of Gosalpur, in the district of Jubbulpur.—H. **Chaudhuri**: A study of a disease of garden peas (*Pisum sativum*) due to *Sclerotium rolfsii*. The causal organism was isolated from the soil and the plant tissues. Infection occurs through wounds only, and especially through wounds in the collars. The fungus was grown in various media, the $P_H$ value ranging between 5 and 7·8; range of temperature, between 10° C. and 33° C. Light is not an important factor in sclerotium formation, but dry atmosphere is favourable. Perfect sterilisation was obtained by autoclaving soil in pots (30 lb. for ten minutes).—Satya Churn **Law**: Local names of some birds of the Manbhum District.

SYDNEY.

**Linnean Society of New South Wales**, March 25 (Jubilee Meeting).—R. H. **Cambage** (Presidential address): Need for a botanical and soil survey of New South Wales. The growth and distribution of native plants are regulated by many factors, and therefore it is not possible to say definitely what a soil may produce without knowing all the facts governing its situation and accompanying conditions. Subject to climate, the geological formation is a most important factor in regulating the growth and distribution of plants, and this is made manifest by the accordance in the changes of plant associations and of the rock formations. For ages the native flora has investigated the chemistry and physical characters of the soil in Nature's laboratory, and the result is available for our study and our benefit in the indigenous vegetation which for so long has been allowed to work out its own destiny unmolested by invasions of either fresh fauna or flora. Full advantage of the information at our disposal can be best achieved by a careful botanical and soil survey of our State so far as is reasonably possible.—W. F. **Blakely**: The Loranthaceæ of Australia. Part VI. Deals with 10 species and 8 varieties belonging to the subgenus Dendrophthæ; two old species are rehabilitated, and 1 species and 4 varieties are offered as new.—G. D. **Osborne**: Geology and petrography of the Clarencetown-Paterson District. Part III. A study of the main glacial beds at Seaham. The total thickness of strata is measured at 1890 feet. Some structures, produced by the dragging force of moving ice, are characteristic of glacial beds developed close to an ice-front, in contrast with the facies exhibited by glacial deposits laid down at a distance from the ice-front.—Ida A. **Brown**: Notes on the occurrence of glendonites and glacial erratics in Upper Marine Beds at Ulladulla, N.S.W. The glendonites occur in the Ulladulla mudstones, the lowest beds of a marine series, on a horizon which may be correlated with the Huskisson beds farther north. They occur in mudstones closely associated with fossil beds, but have not been found in overlying mudstones which do not contain abundant fossils.—A. **Philpott**: On a remarkable modification of the eighth abdominal segment in *Lindera tessalatella* Blanch., with a description of the male and female genitalia.

VIENNA.

**Academy of Sciences**, April 30.—F. **Werner**: New or little-known snakes in the State Museum of Natural History at Vienna. Four new genera and eight new species of Colubridæ are included.—C. **Doelter**: The effect of pitch-blende on mineral colours. Radium produces effects in a few days, while pitch-blende requires some months.—R. **Kreman** and K. **Zechner**: On the influence of substitution in the components of binary solution equilibria. (xlviii.) The binary systems of azobenzol with acids. (xlix.) The binary systems of cinnamic aldehyde and salicylic aldehyde with phenols. (l.) Binary systems of acids and amines by R. **Kreman**, G. **Weber** and K. **Zechner**.—R. **Kreman** and A. **Hrasovec**: Electrolytic conduction in molten metal alloys. Attempts at repression of diffusion of metals in quicksilver by means of continuous current.—G. **Weissenberger** and F. **Schuster**: Organic molecular compounds. (x.) Vapour pressure curves. (xi.) Dolezalek's theory. (xii.) With H. **Pamer**. (xii.) Chloracetic acids and penta-chlor-ethane.—J. **Zellner**: Contributions to the comparative chemistry of plants. (x.) Chemistry of barks. Elm, alder, walnut, plane-tree have been examined. (xi.) F. **Stern** and J. **Zellner**: On *Sonchus arvensis*.—W. **Konrad**: Time curves of the Tauern earthquake of November 28, 1923.

## Official Publications Received.

Scientific Papers of the Institute of Physical and Chemical Research. No. 28: On the Doublets and Triplets in the Spectra of different Elements. By Yoshikatsu Sugiura. Pp. 31. 35 sen. No. 29: Sur la toxicité du thiophène pour le nickel catalyseur et une autre action du cuivre catalyseur. Par Bennosuke Kubota et Kiyoshi Yoshikawa. Pp. 33-50. 20 sen. No. 30: A Classification of Enhanced Lines of various Elements. By Masamichi Kimura and Gisaburo Nakamura. Pp. 51-69 +4 plates. 45 sen. No. 31: Classification of Enhanced Lines of various Elements. 2: Spectra of Intermittent Arc shunted by a Condenser. By Masamichi Kimura. Pp. 71-79+1 plate. 20 sen. (Tokyo: Komagome, Hongo.)