

Societies and Academies.

PARIS.

Academy of Sciences, July 9.—A. Cotton: The large electromagnet of the Academy of Sciences. A full description with five illustrations of the giant electromagnet constructed at Bellevue, at the Office national des Recherches scientifiques et industrielles et des Inventions. The magnet has a total weight of 120 metric tons, of which 105 tons are iron and 6 tons copper. Preliminary measurements give 46,400 gauss as the strength of the magnetic field obtained. The cost of the instrument was defrayed by a grant of a million francs from the Pasteur Day fund.—P. Helbronner: The measurement of the arc of meridian in the French Alps.—G. Nicoladzé: The configurations of ordinary space.—H. Jonas: The transformation of the integral surfaces of the partial differential equation $s^2 - rt = (pq)^{\frac{1}{2}}$.—de Possel: The prolongation of Riemann surfaces.—Henrik L. Selber: The theorem of Picard.—R. Tams Lyche: Limit functions.—Pierre Dive: The generalisation of Stokes's theorem on figures of equilibrium.—S. Szczeniewski: The reflection of the electrons. The results of the experiments described agree with those calculated from the formula of L. de Broglie.—G. Landsberg and L. Mandelstam: Some new facts relating to the diffusion of light in crystals.—G. Simon: The production of gratings by photography.—Gaston Rapin: The direct electrolytic preparation of potassium permanganate. The use of a silicon-manganese alloy as anode with solution of caustic alkali as electrolyte gives a good yield of permanganate.—P. Bonét-Maury: The vaporisation of polonium in a vacuum. The polonium is condensed on copper plates cooled by liquid air: from 80 per cent to 88 per cent of the polonium volatilised is condensed on the copper.—A. Boutaric and F. Banès: The phenomena of dyeing colloidal granules. When certain sols (arsenic sulphide, ferric oxide, gold) are frozen, the particles separate in the form of small crystals without fixing the colouring matter mixed with the sol, but when after flocculation with an electrolyte the colouring matter has been fixed by the granules, a subsequent freezing does not cause a separation of the dye. The absorption of neutral red, Bismarck brown, and Congo red by colloids has been studied by means of the freezing method.—Nathaniel Thon: The influence of electrolytes on the velocity of cataphoresis and the relations between the electrokinetic potential and the electromotor potential of gold.—Ch. Quillard: Contribution to the study of the reactivity of combustibles. Method of measuring the velocity of propagation of the combustion. There appears to be no relation between the temperature of inflammation and the velocity of propagation of combustion.—M. Brutzkus: The synthesis of organic bodies and of ammonia starting with water gas, without the use of catalysts. A note on the changes produced by simple compression of a mixture of water gas and air.—Mlle. Cécile Noir and Tchéng-Datchang: The preparation of cyanogen in the wet way. The gas obtained by the interaction of solutions of copper sulphate and potassium cyanide consists of 78 per cent cyanogen, 1-2 per cent hydrogen cyanide, and 20 per cent carbon dioxide. Jacquemin's method for preparing cyanogen by oxidising cuprous cyanide with ferric chloride gives purer gas in quantitative yields.—Mlle. Marthe Montagne: New researches relative to the action of organo-magnesium derivatives on some fatty dialkylamides.—Marius Séon: Contribution to the study of the action of gaseous hydrobromic acid on the ether salts of organic acids at the ordinary pressure. On the basis of some experiments described

the author gives $R \cdot CO \cdot OR' + HBr = R \cdot CO \cdot OH + R'Br$ as a general reaction, R being any monovalent radical, and R' an alkyl group.—J. Tomitch: A series of lavas from southern Serbia.—Y. Milon and L. Dangeard: The importance of the phenomena of solifluction in Brittany during the Quaternary period. The phenomena of solifluction was observed by J. G. Andersson at Bear Island, and applied by him to explain the rivers of stones in the Falkland Isles.—Formations of similar origin are found in Brittany and Normandy: several examples are cited.—Clément: Researches on the development of the perithecium in the genus *Elaphomyces*.—P. Milovidov: The chemical constitution of the chondriosomes and the plastids in plants.—Raymond-Hamet: The identity of yohimbine and quebrachine. Fourneau and Page stated that yohimbine extracted by Spiegel from the bark of *Pausinystalia Johimbe* and quebrachine isolated by Hesse from the bark of *Aspidosperma Quebracho blanco* were identical. This conclusion has been criticised on several grounds. The author has prepared pure specimens from both sources and proves that yohimbine and quebrachine are both chemically and physiologically identical.—Henri Marcellet: The presence of a fatty acid, not hitherto observed, in a fish oil. This acid has been isolated from the saturated fatty acids of the oil of *Dorosoma rarus*, and has the composition $C_{17}H_{34}O_2$.—Mme. L. Randoïn and Mlle. A. Michaux: The comparative variations in the amounts of water, fatty acids, and cholesterol in the liver and spleen of the normal guinea-pig, and in the guinea-pig submitted to a diet deprived of the anti-scorbutic vitamin.—A. Paillot: The relative importance of the various factors contributing to limit the spreading of the *Pyralis* of maize in the east of France.—Y. Manouélian and J. Viala: Virulent neuroses and excretory canals of the salivary glands.—S. I. Zlatogoroff: The etiology of scarlet fever.

CAPE TOWN.

Royal Society of South Africa, June 20.—V. A. Wager: The breeding habits and life history of some Transvaal amphibia. The hitherto unrecorded life history and breeding habits of *Hemismus marmoratum* are described. The frogs were found at Gravelotte, in north-eastern Transvaal, the most southern record at present known. The eggs are laid in small cavities under the surface of the bank of a pool and are looked after by the female until they are hatched. The female then digs a tunnel from the nest to the water, down which the young tadpoles wriggle in a mass. The young tadpoles have a peculiar method of respiration by means of blood vessels in close proximity to the skin on the under side of the body—no external gills being present. They are able to remain alive out of the water for as much as 18 days. The later brief stages of the tadpoles are described in detail. Also brief notes are given on *Phrynomerus bifasciatus* and on *Hyperolius marmoratus*.—J. H. Power and W. Rose: Notes on the habits and life histories of some Cape Peninsula Anura. The breeding habits and life histories of *Hyperolius horstockii* and *Arthroleptella lightfootii* are described. Nothing has been previously known of the life histories of either the genus *Hyperolius* or *Arthroleptella*. The metamorphosis of the small mountain toad, *Bufo rosei*, is also given.—D. G. Steyn and M. Rindl: The toxicity of the fruit of *Melia Azedarach* (Syringa berries). *Melia Azedarach*, a tree native to the Himalayan region, is widely planted as an ornamental tree. It is known in South Africa as Bessiboom, Sering or Syringa, and the drupes, known as Syringa berries, are commonly

believed to be toxic. The recorded information with regard to their toxicity, obtained from American, Australian, and South African sources, is conflicting. In view of the inconclusive nature of the recorded evidence it seemed desirable to reinvestigate the problem, both from the toxicological and chemical point of view. The results show that hogs, sheep, goats, rabbits, and guinea-pigs are susceptible to the syringa toxin, pigs being the most susceptible animals, and goats less so than sheep. Muscovy-ducks were not killed even by relatively high doses of the plant material. The symptoms produced in the fatal cases are paralysis and narcosis. Death usually occurs through suffocation. Cold alcohol completely removes the toxin from the ground fruit, but the product is contaminated with considerable quantities of innocuous resin. Continuous extraction with ether fails to remove the toxin completely. The toxins are not of the nature of alkaloids, toxalbumins, or glucosides easily hydrolysed by acids. They most probably belong to that indefinite group known as "bitter principles."—**Dr. Jan Dommissé**: Mean sea-level and other tidal phenomena in Table Bay. The paper is a brief summary of work on (1) mean sea-level at Cape Town, (2) correlation between mean sea-level and barometric pressure, (3) nineteen yearly tides, (4) special tidal phenomenon in February 1907, and (5) tide constants.—**Dr. F. G. Cawston**: The resistance of *Limnæidæ* to varying degrees of desiccation. The periodical drying of pools results in the death of those examples of the *Limnæidæ* which are stranded on the surface, as they are unprotected by an operculated shell; those that settle down into the mud are not affected by dry winds or the strong sun's rays, though they are still subject to the attacks of some of their natural enemies. *Physopsis* and *Bulinus* are better able than *Limnæa* to hibernate in mud, because of the protection afforded by their stouter shell and smaller aperture. With appropriate food *Planorbis pfeifferi* (Krauss), *Bulinus tropica* (Krauss), and *Melanoides tuberculatus* (Müller) have survived burying in garden soil for twelve days at a time, though all the *Limnææ* were dead. The extensive growth of *Eichornia crassipes* (Ponteder) rapidly dries up a pool infested with *Limnæidæ*, and *Tephrosia* might be used to destroy fluke-infested species.—**D. Slome and L. Hogben**: Preliminary communication on the chromatic function in *Xenopus levis*. The power of chromatic response is well developed in *Xenopus levis*. Between 15° and 30° C. photic stimuli are the main agencies contributing to pigmentary effector activity. A statistical method of describing the extent of expansion or contraction of the dermal melanophores by assigning arbitrary numerical symbols was applied to the comparison of series of animals kept at different intensities of illumination with the field of vision defined by surfaces of different absorptive power. The results show: (a) that there is a slight degree of primary reactivity independent of the eyes, tending to greater expansion with greater illumination, (b) that there is a secondary and independent response for which the eyes are the receptor organs, (c) that the secondary response by contraction in a light-scattering and expansion to a light-absorbing surface is of much greater extent and requires a lower intensity of illumination than the primary response, (d) that the melanophores of eyeless toads or of normal toads kept for some time in darkness are intermediate in condition.

LENINGRAD.

Academy of Sciences (*Comptes rendus*, No. 9).—**F. Levinson-Lessing**: Some controversial problems in

the classification and nomenclature of rocks. Keratophyric rocks in the broad sense of the term must be regarded as leucocratic palæotypic (diagenetised) soda rocks (in some cases also potash rocks). They are subdivided into keratophyres proper, oxykeratophytes, and quartz keratophyres, as well as keratophyrites, oxykeratophyrites, and quartz keratophyrites.—**A. Tolmachev**: Lower Yenisei as a phyto-geographical boundary. The Yenisei valley is considered by many biogeographers as a boundary between the two great divisions of the Palæartic region, one corresponding to the ancient Angara continent, and the other comprising the West Siberian lowlands. The distribution of plants in the northern parts of Siberia indicates, however, that the actual boundary between the two floras does not coincide with the geological boundary, but passes distinctly westwards from the lower Yenisei. This is explained by recent expansion of the Angara flora westwards, and a general principle is advanced, that biogeographical boundaries do not necessarily coincide with the geological ones, being dependent on recent migrations of organisms.—**A. Grosse**: Isolation of protactinium. Protactinium can be obtained in sufficient quantities by repeating many times the following processes: (1) protactinium, together with phosphates of zirconium and hafnium, is precipitated from the concentrated solution in hydrochloric acid; (2) phosphoric acid is separated from the phosphates of zirconium, hafnium, and protactinium by melting with potassium carbonate; (3) protactinium is isolated (though only partly) from zirconium and hafnium by the partial crystallisation of oxychlorides from the concentrated hydrochloric acid. In this way protactinium can be obtained as the oxide, Pa₂O₅.—**M. D. Zverev**: Bionomics of *Erythropus vespertinus* L. and *Hypotriorchis subbuteo* L. A pair of *E. vespertinus* has been observed on a nest with some young birds, which were fed by the old ones, but the young proved later to be those of *H. subbuteo*, and old birds of the latter species took care of them, while the pair of *E. vespertinus* disappeared.—**N. A. Kulik**: The sands of the Petchora region. These sands have definite characters showing their marine origin, and they have not been disturbed since their deposition; their age is that of the last regression of the northern ocean.

Comptes rendus, No. 10.—**P. P. Lazarev**: Some statistical problems concerning the movements of animals. While it is impossible to predict movements of individual infusoria, movements of a large number of them are subject to the same laws as movements of small inorganic particles.—**P. P. Lazarev, L. M. Couper, and A. Dubinskaja-Voskresenskaja**: The influence of age on the adaptation of peripheral vision. Visional adaptation has been studied in subjects of widely different age, from six to eighty-one years, and it was found that up to fifty years the power of adaptation is practically constant, but later it decreases rapidly.—**P. P. Lazarev**: A method for determination of the age limit in man. The age limit of man has been determined by a complete hardening of certain bones at about 130-150 years. The author suggests that age limit may be determined also by studying sensibility of centres of peripheral vision and of other nervous centres.—**P. P. Lazarev and A. Dubinskaja-Voskresenskaja**: Influence of alcohol on visual adaptation. Adaptability of vision is modified, but not essentially affected, by alcohol.—**Z. Sergeeva**: Respiratory organs of Isopoda. Preliminary report on the structure of the gills of *Porcellio levis*, *Armadillium pallasi*, *Speroma serratum*. Oxidising ferments in

the blood of the species studied have been proved microchemically.—V. Gromov: The age of palaeolithic remains in Siberia. A classification of all known palaeolithic remains in Siberia and an attempt to correlate them with the geological history of the country.

Comptes rendus, No. 11.—F. Loewinson-Lessing and A. Turcev: The magnetic properties of some stony meteorites. A number of meteorites were examined with regard to their magnetic condition, and it was found that, with the exception of two, all were feebly magnetised. A study of the artificial magnetisation of meteorites at different temperatures was also undertaken, with the result that between 400° and 500° C. a sharp increase in magnetism was observed.—D. Stcherbakov and A. F. Sosedko: Investigations of the 1927 expedition to South Ferghana for the study of antimony and mercury deposits.—P. Kobeko and I. V. Kurtchaov: Formation of oxygen at the anode during the electrolysis of glass. The production of oxygen in the process of dissociation of glass by a current at different temperatures proves that Faraday's law is wholly applicable to the electrolysis of glass; nevertheless, the use of the law is not justified in the case of an ionising current.—S. Kostychev and V. Faërmann: The fermentation of zymase is due to living cells. The fermentation of various samples of zymase proved to be a purely biological process due to the presence of yeast, while the presence of the hypothetical zymase could not be proved experimentally.—S. Kostychev and A. Chomitch: The absence of extracellular fermentation in the maceration juice of yeast. A series of careful experiments proved that the fermentation of the juice of macerated yeast is not due to the presence of zymase, but to a biological process, though the actual agent of the fermentation has not been yet found.

ROME.

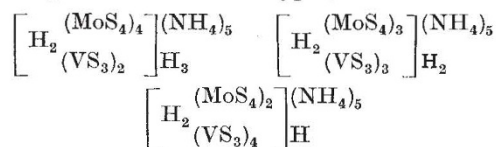
Royal National Academy of the Lincei, Mar. 18.—E. Bianchi: Atmospheric extinction at Rome. The fact that Andriani has recently obtained the value 1.90 for the atmospheric extinction (ρ) at Rome, whereas the author found 1.02, is readily explainable, since the measurements were made in spring, summer, and autumn in the former case, and in the winter in the latter; moreover, the zenithal distances were different in the two instances.—G. Abetti: Activity and altitude of the solar chromosphere in 1927. Combination of the results of measurements made at Madrid and at Arcetri in 1926 and 1927 gives, for the course of the altitude of the solar chromosphere, curves which are very similar for the two years, and confirms the general lowering in the latter year and the probable slight lowering at the poles; a minimum at latitude 60° and a maximum at 30° are also well defined. Comparison of these curves with those indicating the areas of the protuberances deduced from measurements made at Arcetri shows that the maximum and minimum altitudes of the atmosphere, for both 1926 and 1927, correspond with the maximum and principal minimum of these areas observed at about the same latitudes. The general activity of the chromosphere, deduced from the total area of the protuberances based on the observations at Arcetri, is diminished by 250 units in passing from 1926 to 1927.—F. Zambonini and Silvia Restaino: Double sulphates of rare earth and alkali metals (11). Sulphates of cerium (cerous) and rubidium. Investigation of the isotherm for the system $Ce_2(SO_4)_3 - Rb_2SO_4 - H_2O$ at 25° reveals the existence only of the compound $Ce_2(SO_4)_3, Rb_2SO_4, 2H_2O$, which persists over a

wide region of concentration. The 1:1:8-compound, which is a usual type in this series, is formed under other conditions and has the specific gravity 2.954 and the crystallographic constants,

$$a : b : c = 0.3479 : 1 : 0.9181, \beta = 96^\circ 7'.$$

The anhydrous compound, $Ce_2(SO_4)_3, Rb_2SO_4$, is also described.—S. Franchi: The most suitable denomination and the cartography of the crystalline mass on which the city of Savona is partly founded.—A. Masotti: The conception of constant tensors in any variety. Considerations similar to those advanced by the author in a recent note on the equivalence of tensors, lead, when applied to Cisotti's views on the idea of constant tensors in Euclidean varieties, to the conclusion that a tensor should be regarded as constant in a field if its components may be made stationary in any point of the field by choosing Cartesian coordinates in that point.—S. Cherubino: Pseudonormalising substitutions and normalisation in the general theory of real Abelian varieties.—P. Tortorici: A class of continuous functionals.—Maria Pastori: The geometrical significance of intrinsic derivation.—A. Colucci: The generalised second differential parameter.—A. de Mira Fernandes: Geodesic displacement, Riemannian curvature, and Bianchi's associated curvature.—C. Ferrari: The plane plate and the Kutta-Joukowski law. Cisotti has recently calculated the action of a plane irrotational current of density ρ and of asymptotic velocity c in the presence of a circumference C on a plane plate inclined at the angle β to the asymptotic direction of the velocity, by determining the pressures on the two opposite faces of the plate by means of Bernoulli's formula. The resulting force, which has the value $\rho c C \cos \beta$, is necessarily perpendicular to the plate and not to the velocity at infinity, as it would be in accordance with the Kutta-Joukowski theorem. Such exception is, however, only apparent and is a direct consequence of the method of calculation used, which does not take account of the pressure at the edges. At the extremities of the plate there is, indeed, infinite velocity and hence negative pressure, which is exerted on an infinitely small area, but has an infinite magnitude of the same order. There results a finite force which acts in the plane of the plate, and which, when combined with the normal force found by Cisotti, gives a resultant normal to the direction of the velocity of the current, as the Kutta-Joukowski theory requires. The proof of this has been given by Kutta for a circular wing and is now given for a plane wing.—V. Ronchi: Interference of corpuscular propagations. Interference phenomena, which have, up to the present time, furnished unshaken support to the classic theory of the propagation of light, are regarded as characteristic for undulatory propagations and as incompatible with any corpuscular theory. Propagation by means of corpuscles regularly distributed may exhibit phenomena comparable with those of stationary waves, and interference phenomena are not characteristic of undulatory propagation alone.—G. Malquori: The systems, $Pb(NO_3)_2 - LiNO_3 - H_2O$ and $Pb(NO_3)_2 - CsNO_3 - H_2O$ at 25°. Comparison of the results of investigation of these systems with those obtained by Gladstone and Saunders for the corresponding systems containing KNO_3 and $NaNO_3$ at different temperatures shows clearly that hydration of the alkali cations exerts distinct influence on the variations observed in the solubility of lead nitrate, the increase in this solubility increasing with the ionic radius of the cation. The fact that the increases in solubility are greater at the lower temperatures indicates the formation of complex compounds.—L. Fernandes:

Sulpho-salts (6). Molybdovanadothioaques. Various compounds of the three types,



are described.—G. R. Levi and C. G. Fontana: Precipitated zinc sulphide. The individual crystals of zinc sulphide precipitated in various ways are found to have similar dimensions, namely, about 20 Å, which may be the dimensions of the pores of the filter-paper. The crystalline form of all the precipitates is that of zinc blende.—G. Scagliarini and E. Brasi: Additive compounds of halides of divalent metals and organic bases (6). Interaction of cadmium halides and hexamethylenetetramine in aqueous or acetone solution yields the compounds: 2CdCl_2 , $\text{C}_6\text{H}_{12}\text{N}_4$; CdBr_2 , $2\text{C}_6\text{H}_{12}\text{N}_4$; CdI_2 , $8\text{H}_2\text{O}$, $\text{C}_6\text{H}_{12}\text{N}_4$; CdCl_2 , $\text{C}_6\text{H}_{12}\text{N}_4$; and 2CdI_2 , $\text{C}_6\text{H}_{12}\text{N}_4$.—D. Cattaneo: Ultramicroscopy of the crystalline lens (4). Modifications of the ultramicroscopic structure in the process of cataract. Cataract appears to consist in a passage from a homogeneous system to a heterogeneous system by precipitation, in the form of granules or droplets, of the proteins constituting the fundamental protoplasm.—U. D'Ancona: The possibility of arranging systematically the larval species of the Murenoids.—A. de Lollis: Modifications of the blood, haemolymphatic apparatus, and kidneys in rabbits treated with transfusion of homogeneous blood.—A. Galamini: Investigations on the physiological action of alcohol. Action on the nitrogen exchange of albino rats fed with an insufficient subprotein, sublipinic, hypercarbohydrate diet (5). Alcohol exerts a favourable action on the resistance of albino rats on a diet of maize and varying proportions of beer yeast. This action does not consist in the conservation of protein substances, which are consumed in larger quantities when alcohol is administered.

Diary of Societies.

CONGRESSES.

AUGUST 30-SEPTEMBER 2.

SOCIÉTÉ HELVÉTIQUE DES SCIENCES NATURELLES (at Lausanne).

SEPTEMBER 3-10.

INTERNATIONAL CONGRESS OF MATHEMATICS (at Bologna).—In following sections:—Arithmetic, Algebra, Analysis; Geometry; Mechanics, Astronomy, Geodesy, Geophysics, Physical-mathematics, Theoretical Physics; Statistics, Mathematical Economics, Calculation of the Probabilities, Science of the Actuary; Engineering and Industrial Applications; Elementary Mathematics, Didactical Questions, Mathematical Logic; Philosophy, History of Mathematics.

SEPTEMBER 5-12.

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE (at Glasgow).

Wednesday, Sept. 5.

At 8.30 P.M.—

Inaugural General Meeting (in St. Andrew's Hall, Charing Cross).—Sir William Bragg: Modern Developments of the Physical Sciences and their Relation to National Problems (Presidential Address).

Thursday, Sept. 6.

At 10 A.M.—

Prof. E. C. C. Baly: Fluorescence, Phosphorescence, and Chemical Reaction (Presidential Address to Section B).

Prof. W. Garstang: Larval Forms: Their Origin and Evolutional History (Presidential Address to Section D).

Joint Discussion on Human Distributions in Scotland.

Prof. Dame Helen Gwynne-Vaughan: Sex and Nutrition in the Fungi (Presidential Address to Section K).

Dr. J. S. Gordon: The Livestock Industry and its Development (Presidential Address to Section M).

At 11 A.M.—

Prof. J. Brontë Gatenby, and others: Discussion on Cell Structures.

At 11.15 A.M.—

Dr. C. G. Simpson, and others: Discussion on the Mechanism of Thunderstorms.

Sir William Ellis, Col. Ivor Curtis, and others: Joint Discussion on School, University, and Practical Training in the Education of the Engineer.

At 12 NOON.—

Prof. J. L. Myres: Ancient Geography in Modern Education (Presidential Address to Section E).

At 2 P.M.—

Conference of Delegates of Corresponding Societies. Dr. Vaughan Cornish, and others: Discussion on the Preservation of Scenic Beauty in Town and Country.

Friday, Sept. 7.

At 10 A.M.—

Dr. R. A. Sampson, and others: Discussion on the Photographic Measurement of Radiation.

Dr. J. Vargas Eyre, and others: Discussion on Fermentation. Sir William Ellis: The Influence of Engineering on Civilisation (Presidential Address to Section G).

Dr. H. E. Magee, Prof. E. P. Cathcart, Capt. J. Golding, and Dr. N. C. Wright: Joint Discussion on Lactation and Nutritional Factors allied thereto.

Dr. Cyril Norwood: Education: the Next Steps (Presidential Address to Section I).

At 11 A.M.—

Prof. T. H. Pear: The Nature of Skill (Presidential Address to Section J).

Saturday, Sept. 8.

At 8.30 P.M.—

(In Royal Technical College Hall, George Street.) Prof. E. A. Westermarck: The Study of Popular Sayings (Frazer Lecture in Social Anthropology).

Sunday, Sept. 9.

At 11 A.M.—

Official Service in the Cathedral Church of St. Mungo. Preacher: Rev. Dr. Lachlan Maclean Watt.

Monday, Sept. 10.

At 10 A.M.—

Prof. A. W. Porter: The Volta Effect: Old and New Evidence (Presidential Address to Section A).

E. B. Bailey: The Palaeozoic Mountain Systems of Europe and America (Presidential Address to Section C).

Prof. Allyn Young: Increasing Returns and Economic Progress (Presidential Address to Section F).

Sir George Macdonald: The Archaeology of Scotland (Presidential Address to Section H).

At 11 A.M.—

Prof. C. Lovatt Evans: The Relation of Physiology to other Sciences (Presidential Address to Section I).

Prof. F. O. Bower, and others: Discussion on the Size Factor in Plant Morphology.

At 11.15 A.M.—

Dr. H. H. Read, Dr. Gertrude Elles, and others: Discussion on Problems of Highland Geology.

At 11.30 A.M.—

Prof. T. H. Pear, Prof. H. Clay, and C. G. Renold: Joint Discussion on the Nature and Present Position of Skill in Industry.

Tuesday, Sept. 11.

At 10 A.M.—

Dr. C. J. Davison, and others: Discussion on the Scattering of Electrons by Crystals.

Sir William Pope, and others: Discussion on Recent Advances in Stereo-chemistry.

Prof. F. E. Suess, and others: Discussion on the Tectonics of Asia. J. A. Venn, Dr. J. S. King, and others: Joint Discussion on the Incidence of Taxation in Agriculture.

G. E. Briggs, Dr. F. G. Gregory, and others: Discussion on the Interpretation of Growth Curves.

Aims of, and Developments in, Broadcasting. Papers:—(a) Sir John Reith: Wireless in the Service of Education. (b) Salter Davis: An Experiment in Educational Broadcasting.—Sir Oliver Lodge, W. A. Brockington: Discussion.

At 12 NOON.—

Prof. T. H. Mortensen, Dr. F. A. Bather, and others: Discussion on Bothrioceratids and the Ancestry of Echinoids.

At 2 P.M.—

Conference of Delegates of Corresponding Societies.

At 2.15 A.M.—

Prof. F. E. Fritsch, R. Gurney, and others: Joint Discussion—A Biological Investigation of British Fresh Waters.

Dr. G. S. Carter: The Conditions of Life in a Tropical Swamp: an Investigation of the Swamps of the Paraguayan Chaco (Lantern Lecture).

At 2.30 P.M.—

Prof. E. Taylor-Jones: Spark Ignition (Lecture).

Dr. J. D. Sutherland, and others: Joint Discussion on the Economic Balance of Agriculture and Forestry.

At 2.45 P.M.—

Discussion on the Position of Geography in Scottish Schools.

At 5 P.M.—

Sir John Stirling-Maxwell, Bart.: Forestry in Scotland: Past, Present, and Future (Lecture).

At 8.30 P.M.—

(In Royal Technical College Hall, George Street.) Prof. F. G. Donnan: The Mystery of Life (Evening Discourse).

Wednesday, Sept. 12.

At 12 NOON.—

(In Fore Hall, University.) Concluding General Meeting.