

### Birthdays and Research Centres.

Dec. 13, 1874.—Prof. R. S. TROUP, C.I.E., F.R.S., professor of forestry in the University of Oxford and Director of the Imperial Forestry Institute, Oxford.

Among the many important problems affecting the British Empire at the present time there are few which afford more scope for useful investigation than the question of co-ordinated surveys dealing with vegetation and soil in relation to climate on one hand and biotic factors on the other, with a view to the recognition of the climax types which may occur and a survey of their distribution. Such surveys would place the economic use of the land on a more scientific basis than is the case at present, since they would indicate the trend of natural processes on distinct soils and sites, and would tend to prevent the policy and practice of agriculture and forestry from running counter to natural laws. The effect of clearing forest in causing the rapid deterioration of the soil opens up a large subject of investigation in different parts of the Empire.

Dec. 16, 1859.—Prof. D. H. CAMPBELL, professor of botany in Stanford University, California.

There is great need for a classification of the archegoniates and spermatophytes more in accord with our present knowledge than is the very antiquated system employed by many taxonomists both in Great Britain and the United States. Too often taxonomists are more interested in the discovery of new species and in questions of nomenclature than in a comprehensive study of the relationships of the major plant groups.

The importance of the genetic problems, which have attracted so large a number of botanists at the present time, is unquestionable, and our knowledge of the mechanics of heredity has been greatly advanced. However, this absorption in the *methods* of evolution has directed attention from important problems dealing with the history of the plant kingdom, and we must still depend mainly upon comparative morphology, ontogeny, and the fossil record for an understanding of the course of evolution in the higher plants.

Dec. 16, 1884.—Prof. J. W. BEWS, professor of botany in the Natal University College, Pietermaritzburg.

The study of South African plant ecology and plant geography continues to yield interesting results, which have an important bearing on the larger question of the evolutionary history and differentiation of the flowering plants as a whole. I am still directing my attention to these problems, from both the morphological and physiological sides. Detailed studies of other families (besides the grasses already dealt with) are being undertaken, while comparative physiological work on the water-relationships and carbohydrate metabolism of more and of less highly evolved types of plant is also being carried out with the help of students. As a further development, I am becoming interested in the study of 'human ecology'.

Dec. 17, 1861.—Mr. EDWARD HERON-ALLEN, F.R.S., hon. mem. R. Accad. S. Caecilia, Rome, past president of the Royal Microscopical Society.

My seventieth birthday finds me with my collaborator, Mr. Arthur Earland, in the middle of Part 2 of our monograph of the "Foraminifera of the *Discovery Expedition*". When the whole of this work is finished we hope to deal with those of the Great

Barrier Reef Expedition. My monograph of the "Recent Foraminifera of Great Britain", which is kept up to date, must wait for publication (which is provided for) until after my death. Our collections and library will shortly be concentrated in a room placed at our disposal at the Natural History Museum, and their rearrangement and the keeping of them up to date, catalogued and indexed, will occupy all my 'idle' hours for the rest of my life.

Dec. 17, 1882.—Mr. F. T. BROOKS, F.R.S., reader in mycology in the University of Cambridge.

I am especially concerned at present with the problems of disease resistance in plants, particularly with those relating to parasitic invasion. These problems are of great botanical interest, and they are also of considerable economic importance. The interplay of host, parasite, and environment is an intriguing study.

Dec. 18, 1856.—Sir J. J. THOMSON, O.M., F.R.S., Master of Trinity College, Cambridge, and formerly Cavendish professor of experimental physics in the University of Cambridge.

Experimental researches on problems relating to the discharge of electricity through gases, and the preparation, in collaboration with my son, Prof. G. P. Thomson, of the second volume of "Conduction of Electricity through Gases". Theoretical investigations on the use of lines of electric force to give a physical representation of the processes going on in the electromagnetic field, including the phenomena associated with electronic waves.

### Societies and Academies.

LONDON.

Geological Society, Nov. 27.—A. C. Seward: (1) Fossil plants from the Bokkeveld and Witteberg beds of South Africa. With a few exceptions the specimens are referred to a single genus, for which a new generic name is proposed. The fossils are portions of stems of a plant allied to some of the psilophytean genera characteristic of Middle Devonian rocks in Europe. They bear a close resemblance to stems of *Cyclostigma*, but there are grounds for regarding the South African plant as rather more primitive than any of the arborescent Lycopodiales, and probably more closely related to the Psilophytales.—(2) Carboniferous plants from Sinai. In 1868 Salter briefly described a specimen from the Sinai Peninsula as *Lepidodendron mosaicum*: this name is adopted for the best specimens in this collection, and others are named *Lepidodendron sp.* and *Halonion tortuosa*. *Lepidodendron mosaicum* Salter is compared with *L. obovatum* Sternberg and with other species. The age of the Sinai beds as indicated by the plants would seem to be either near the upper limit of the Lower Carboniferous, or possibly early Westphalian. A brief reference is made to phytogeographical problems raised by the occurrence of Carboniferous plants to the south of the Tethys Sea.—T. N. George: The British Carboniferous reticulate Spiriferidae. The short-hinged spirifers which are customarily referred to the genus *Reticularia* fall into two main groups. One group, constituting *Reticularia* proper (genotype *Terebratula imbricata* Sowerby), is characterised by relatively large forms which possess a coarse shell-structure and an apparent absence of biramous spines. The second group, referred to a new genus, contains relatively small forms with a fine shell-structure which do not advance beyond an incipiently uniplicate stage in the development of shell-sculpture.

## DUBLIN.

Royal Irish Academy, Nov. 9.—R. K. Boylan: The mobilities of atmospheric large ions. Observations made by the McClelland method and also by the Zeleny divided-electrode method disclose the existence in atmospheric air not only of the Langevin ions of mobility 0.0003 cm./sec./volt./cm., but also of groups of large ions of higher and lower mobilities.—R. Southern and A. C. Gardiner: Reports from the Limnological Laboratory (2). The diurnal migrations of the Crustacea of the plankton in Lough Derg. Continuous observations on the vertical distribution of seven species of Crustacea of the plankton were made during the day and night for a period of six days from a boat anchored in the middle of Lough Derg. The daily migrations of the plankton are shown in a series of twenty histograms. Considerable variation in distribution was shown from day to day, and the causes of this variation are investigated. Certain species are composed of classes differing in their behaviour. The migrations of adult *Daphnia longispina* are precisely reversed in the case of immature forms of the same species. The males of *Cyclops strenuus* remain in deep water throughout the day and night, whilst the females and immature individuals migrate to the surface at night.

## PARIS.

Academy of Sciences, Nov. 3.—The president announced the death of Gabriel Koenigs, member of the section of mechanics.—C. Gutton and G. Beauvais: Oscillators with very short waves. An experimental study of the effects of gas pressure in a valve producing short waves. For very low pressures, some hundred thousandths of a millimetre, the oscillation frequencies depend on the real frequency of the oscillating circuit. With higher pressures in the valve (0.008 mm.) a higher frequency is obtained, which is determined by the dimensions and potentials of the valve electrodes.—Alessandro Terracini: The reducibility of certain algebraical correspondences.—F. Leja: The convergence factor of series of polynomials.—D. Belorizky: The solution of the problem of three bodies given by Sundmann.—Mlle. Suzanne Veil: The diffusion and cataphoresis of methylene blue in gelatin. An application of the microphotometer to the problem. The curve of diffusion is regular and gives no evidence of the discontinuity noted by Mokruschin. The phenomenon of cataphoresis of methylene blue in gelatin is much more complex than that of diffusion.—J. Hérenguel and G. Chaudron: The preparation of pure magnesium by sublimation. The apparatus used is described and figured. After two sublimations in a high vacuum (mercury vapour pump) the magnesium contained less than 0.001 per cent of chlorine and was free from silicon and iron. The metal was fused to an ingot in the same apparatus in argon under a pressure of some centimetres.—D. Ivanoff: The mechanism of the reaction between ethyl carbonate and the Grignard reagent.—L. Hackspill, A. Stieber, and R. Hocart: Crystallised boron. It is shown that the substance sold as crystallised boron consists mainly of compounds of this element. The authors have prepared a boron of 99 per cent purity by the action of a high frequency discharge in a mixture of hydrogen and boron trichloride. Pure boron can also be obtained by the action of an incandescent tungsten filament on the vapour of boron tribromide. Both these give the same X-ray spectrum.—Bogdan Varitchak: The movements of the protoplasm in an Ascomycete, *Sordaria fimicola*.—Raymond Hovasse: Silicoflagellate or Radiolaria? A new protist, *Bosporella tri-*

*cnoides*.—Jean Saidman: The comparative biological properties of high frequency and very high frequency currents. Four out of the five properties discovered by d'Arsonval for high frequency currents are shown to persist with very high frequency currents. Details of four cases treated are given.—Mme. Z. Gruzewska and G. Roussel: The  $\alpha$ -lipase of horse serum. Its activity in multiple bleedings.—Cl. Fromageot and A. Porcherel: The action of pancreatin upon different types of wool. Different kinds of wool show differences in the reaction with pancreatin, the coarser wools proving the more resistant. The loss of weight of the wool may reach 82 per cent.—A. Ch. Hollande and Mme. G. Hollande: The cytological structure of the human type of tubercle bacillus. The evolutive cycle of *Mycobacterium tuberculosis*.

## PRAGUE.

Czech (Bohemian) Academy of Arts and Sciences (Second class, Natural Sciences and Medicine), April 17.—K. Domin: Races and forms of *Carex sempervirens*.—F. Němejc: A study of the systematic position of cones of the type *Sporangioctrobus* Bode.—F. Novotny and F. Toul: An experimental study on the estimation of traces of elementary oxygen. The Binder-Weinland method is unsuitable for detecting traces of oxygen, as the red coloration, which should indicate oxygen, is very sensitive to impurities.—F. Bilek: Nomographic anamorphosis in a hyperbola.

June 5.—V. Hlavaty: An introduction to the theory of Lie groups.—F. Herles: The influence of digitalis drugs as shown on electrocardiograms.—J. Vitek: The relation of the alkaline reserve of the cerebro-spinal liquid to the alkaline blood reserve and its bearing on the diseases of the nervous system.—J. Babička: Polarographic analysis with the dropping mercury cathode of extracts from plant tissues. The discovery of Prof. B. Němec that the nuclei of meristematic plant cells dissolve in hot water, whereas the nuclei of non-meristematic cells are coagulated, has been confirmed by polarographic micro-analysis. The proteins which by the action of hot water split off from chromosomes were found most abundantly in the root tips of *Vicia faba* and *Allium cepa*, whilst the other parts of the root showed a gradual diminution.—P. Sillinger: The species *Festucetum carpaticæ* in the Low Tatra mountains compared with an analogous association in other parts of the western Carpathians.—B. Brauner and E. Švagr: A physico-chemical study of the sulphates of the rare earths. The degree of hydrolysis has been determined in sulphates of Sc, Y, La, Ce, Pr, Nd, Sm, Gd, Tb, Er, Yb, Th by conductivity measurements of the normal and acid sulphates, by the inversion of saccharose and catalysis of methyl acetate.—V. Hovorka: A study of the oxidation of hydrazine and semicarbazide by potassium iodate. Free iodine, liberated in this oxidation, is bound by the addition of mercuric chlorate. The reaction is promoted by acidifying with hydrochloric acid, which dissolves precipitates formed in the reaction mixture. Excess of acid is, however, undesirable. At the end of the oxidation, potassium iodide is added and the excess of iodate determined by the iodine thus liberated.—K. Michal: (1) The relation between the population density and the optimum for life, and of this to the sex ratio, in some invertebrates. The animals congregate to maintain a higher temperature and humidity. The optimal conditions yield more females, whilst unfavourable conditions lead to excess of males. The deciding factor is nourishment.—(2) Oscillation in oxygen consumption during the day and during the whole life of invertebrates (meal-worm, house-fly). Maximum of oxygen consumption is reached in early

morning hours, when feeding is most intense; minimum at noon. Greatest consumption of oxygen occurs when the organism is half grown, and does not correspond to the rate of growth of the body.

## ROME.

Royal National Academy of the Lincei, May 3.—G. Armellini: The horizontal diameter of the sun in 1929 and 1930. At the Campidoglio Observatory measurements are made at noon on every clear day of the sun's horizontal diameter by four independent observers. In order that the results obtained over a series of years may be strictly comparable, the method of measurement has been kept unchanged since it was introduced by Respighi in 1876. The mean values (in seconds) thus obtained for the sun's radius during the past seven years are: 1924, 961.03; 1925, 960.63; 1926, 961.02; 1927, 961.54; 1928, 961.58; 1929, 961.63; 1930, 961.68. The causes of these more or less periodic fluctuations in the solar radius are being sought in the fact that the energy produced by the sun is not always exactly equal to the energy irradiated.—G. Abetti: Height of the chromosphere in 1930. Observations at Arcetri show a diminution in the mean height of the solar chromosphere from 10.33" in 1929 to 10.28" in 1930. The observations made at Madrid and Catania indicate decreases of 0.32" and 0.3" respectively. The total area of the prominences, which fell by 156 units in 1928-29, has again fallen by 291 units for 1929-30. According to the international observations collected and reduced at Zurich, the relative numbers of spots underwent reduction from 65.0 in 1929 to 35.7 in 1930, and it appears that the minimum solar activity of the present cycle starting in 1923 is not far distant.—Q. Majorana: New photoelectric effect in alkali metal cells.—P. Vinassa: Valency and symmetry. The forces acting in chemical reactions modify substances, often considerably, but either do not alter the symmetry of the components or change it into other symmetrical groupings. In the depths of the earth, rocks are fused to a magma which is greatly dissociated and ionised, but the symmetry remains unaltered.—M. Betti and P. Pratesi: Optical resolution of racemic aldehydes (2). By means of its reaction with  $\beta$ -naphthylphenylaminomethane, racemic *p*-methylhydratropic aldehyde may be resolved into its optically active components.—F. Zambonini and S. Restaino: Praseodymium and thalium sulphates. These sulphates form the following crystalline double sulphates:  $\text{Pr}_2(\text{SO}_4)_3, 5\text{Ti}_2\text{SO}_4$ ;  $\text{Pr}_2(\text{SO}_4)_3, 4.5\text{Ti}_2\text{SO}_4$ ;  $\text{Pr}_2(\text{SO}_4)_3, 3\text{Ti}_2\text{SO}_4, \text{H}_2\text{O}$ , and  $\text{Pr}_2(\text{SO}_4)_3, \text{Ti}_2\text{SO}_4, 4\text{H}_2\text{O}$ .—Giuseppe Corbellini: The associability of *m* congruences of curves in space of *n* dimensions.—G. Mammana: The product of series capable of summation by Cesaro's method.—A. de Mira Fernandes: Centres of gravity of plane sections of a homogeneous body.—Pia Nalli: Rigid transports of vectors in Riemannian spaces.—B. Segre: Poincaré's problem of pseudo-conformal representation.—G. Colonnetti: Theory of arches with one or two hinges.—G. Lampariello: The impossibility of wave propagation in viscous fluids.—R. Zoja: The distribution of the tensions in a solid with rectilinear axis and with rectangular section of varying height (2).—Paolo Straneo: The unitary theory of gravitation and electricity (2). Presentation and preliminary discussion of the equations of the field. By development of the unitary theory previously considered, equations of the field are now deduced which are the simplest to express, at the limit, the gravitational equations of Einstein on one hand and Maxwell's electromagnetic equations on the other.—A. Corbellini: Stereoisomerism of derivatives of 1:1'-dinaphthyl. 1:1'-

Dinaphthyl-8:8'-dicarboxylic acid, obtainable in good yield by reducing the diazo-compound of 8-amino-1-naphthoic acid, may be separated into its two optical antipodes by fractional crystallisation or precipitation of its brucine, cinchonine or strychnine salts. Unlike those of other analogous acids, the optical isomerides here described readily undergo racemisation in alkaline solution, even at the ordinary temperature.—F. Rodolico: Diopside and tremolite from Monte Spinosa in the Campigliese. The composition of the sample of tremolite analysed is in agreement in some respects with the older formula,  $\text{CaMg}_3(\text{SiO}_3)_4$ ; if, however, the substitutions assumed by Warren (1929) are accepted, the analytical results exhibit moderately good agreement with the formula  $\text{H}_2\text{Ca}_2\text{Mg}_5(\text{SiO}_3)_8$ . When allowance is made for the traces of limonite present and for a certain amount of alteration which the mineral has evidently undergone, the composition of the diopside examined is in accord with the accepted formula.

## WASHINGTON, D.C.

National Academy of Sciences (*Proc.*, Vol. 17, No. 8, Aug. 15).—A. L. Shalowitz: The physical basis of modern hydrographic surveying. Acoustic depth sounding, in addition to increasing enormously the rate at which surveys can be carried out, has led to the development of a rapid method of position-finding at sea. A small charge of T.N.T. is exploded near the ship, the sound waves are picked up by hydrophones near the shore, and automatically radio signals are sent out from a shore station. The time interval between the explosion and receipt of the radio signal gives the distance from ship to hydrophone, provided the horizontal velocity of sound in water is known. Extensive data on the latter show close agreement between measured and theoretical velocity based on bottom temperature of the sea, suggesting that the sound wave travels mainly along the bottom layers of water.—Andrew C. Berry: A metric for the space of measurable functions.—Lincoln La Paz: The Euler equations of problems of the calculus of variations with prescribed transversality conditions.—G. A. Miller: Theorems relating to the history of mathematics.—Y. H. Woo: On the intensity of total scattering of X-rays by gases (1 and 2). A general theory for a polyatomic gas is developed, assuming that only the coherent scattered radiation from the different atoms will interfere while the incoherent radiation will be simply added up. The theory gives results in fair accord with Barrett's work on hydrogen, oxygen, and nitrogen.—E. O. Wollan: Note on scattering by diatomic gases. Woo's results (above) accord with the author's recent experimental work, suggesting that Woo's equation is valid wherever one can assume spherical symmetry for the atoms of the gas molecule.—Wilder D. Bancroft and John W. Ackerman: The solid solution theory of dyeing.—Wilder D. Bancroft and John E. Rutzler, Jr.: Reversible coagulation in living tissue. The sensitivity of *Mimosa pudica* can be decreased by sodium thiocyanate and salicylate (peptising agents) and also by sodium citrate and amyral (coagulating agents). Experimental results suggest that anaesthetisation of plants as of animals is due to reversible coagulation of proteins which, being partly coagulated in the normal plant of *M. pudica*, account for its sensitivity.—Barbara McClintock: The order of the genes *C*, *Sh*, and *Wx* in *Zea mays* with reference to a cytological known point in the chromosome.—Harriet B. Creighton and Barbara McClintock: A correlation of cytological and genetical crossing-over in *Zea mays*. Evidence has been obtained that pairing chromosomes, heteromorphic in two regions,

exchange parts when they exchange genes assigned to these regions.—Clyde E. Keeler: A reverse mutation from 'dilute' to 'intense' pigmentation in the house mouse.—Howard B. Frost: Trisomic inheritance of doubleness, complicated by lethals, in *Matthiola incana*.

### Diary of Societies.

#### FRIDAY, DECEMBER 11.

- ANDERSONIAN CHEMICAL SOCIETY (at Royal Technical College, Glasgow), at 3.15.  
 BIOCHEMICAL SOCIETY (at London School of Hygiene and Tropical Medicine), at 3.30.  
 ROYAL ASTRONOMICAL SOCIETY, at 5.—Prof. Freundlich: On the Gravitational Deflection of Light (Total Solar Eclipse, 1929, May 9).  
 ROYAL GEOGRAPHICAL SOCIETY, at 5.—The British Expedition to Greenland (Films).  
 ROYAL SOCIETY OF MEDICINE (Ophthalmology Section) (at Royal Eye Hospital, St. George's Circus), at 5.  
 ROYAL SOCIETY OF MEDICINE (Clinical Section), at 5.30.  
 MALACOLOGICAL SOCIETY OF LONDON (at Linnean Society), at 6.  
 INSTITUTION OF CHEMICAL ENGINEERS (at Chemical Society), at 6.  
 INSTITUTION OF MECHANICAL ENGINEERS, at 6.  
 NORTH-EAST COAST INSTITUTION OF ENGINEERS AND SHIPBUILDERS (at Mining Institute, Newcastle-upon-Tyne), at 6.  
 INSTITUTION OF STRUCTURAL ENGINEERS (Informal Meeting) (at Chamber of Commerce, Birmingham), at 6.30.  
 SOCIETY OF DYERS AND COLOURISTS (jointly with Manchester Literary and Philosophical Society—Chemistry Section) (at 36 George Street, Manchester), at 7.  
 INSTITUTION OF ELECTRICAL ENGINEERS (London Students' Section), at 7.  
 GEOLOGISTS' ASSOCIATION (North-East Lancashire Group) (at Blackburn Technical College), at 7.  
 OIL AND COLOUR CHEMISTS' ASSOCIATION (Manchester Section) (at College of Technology, Manchester), at 7.  
 WEST OF SCOTLAND IRON AND STEEL INSTITUTE (at Royal Technical College, Glasgow), at 7.15.  
 SOCIETY OF CHEMICAL INDUSTRY (South Wales Section) (jointly with Institute of Chemistry) (at Thomas' Café, Swansea), at 7.30.  
 JUNIOR INSTITUTION OF ENGINEERS, at 7.30.  
 TEXTILE INSTITUTE (Lancashire Section) (at Manchester), at 7.30.  
 KEIGHLEY ASSOCIATION OF ENGINEERS (at Queen's Hotel, Keighley), at 7.30.  
 ROYAL INSTITUTION OF GREAT BRITAIN, at 9.—Prof. H. J. Fleure: City Morphology in Europe.

#### SATURDAY, DECEMBER 12.

- GEOLOGISTS' ASSOCIATION (Demonstration at Natural History Museum), at 2.30.  
 NORTH OF ENGLAND INSTITUTION OF MINING AND MECHANICAL ENGINEERS (at Newcastle-upon-Tyne), at 2.30.  
 ROYAL INSTITUTION OF GREAT BRITAIN, at 3.—Roger Fry: Great French Painters (2).  
 HULL ASSOCIATION OF ENGINEERS (at Municipal Technical College, Hull), at 7.15.

#### MONDAY, DECEMBER 14.

- ROYAL SOCIETY OF MEDICINE (United Services Section), at 5.  
 INSTITUTION OF MECHANICAL ENGINEERS (Graduates' Section, London), at 6.15.  
 INSTITUTION OF ELECTRICAL ENGINEERS (North-Eastern Centre) (at Armstrong College, Newcastle-upon-Tyne), at 7.  
 SOCIETY OF CHEMICAL INDUSTRY (Yorkshire Section) (jointly with Refractories Association of Great Britain) (at Royal Victoria Hotel, Sheffield), at 7.  
 INSTITUTE OF METALS (Scottish Local Section) (at 39 Elmbank Crescent, Glasgow), at 7.30.

- ROYAL INSTITUTE OF BRITISH ARCHITECTS, at 8.  
 ROYAL GEOGRAPHICAL SOCIETY, at 8.30.  
 INSTITUTION OF ELECTRICAL ENGINEERS (Western Centre) (at Bristol).

#### TUESDAY, DECEMBER 15.

- ROYAL INSTITUTION OF GREAT BRITAIN, at 5.15.—Dr. F. J. W. Whipple: Air Waves and how they are used to explore the Upper Atmosphere (2).  
 ROYAL SOCIETY OF MEDICINE, at 5.30.—General Meeting.  
 INSTITUTION OF CIVIL ENGINEERS, at 6.  
 INSTITUTE OF INDUSTRIAL ADMINISTRATION (Annual General Meeting) (at Institute of Hygiene), at 6.30.  
 LONDON NATURAL HISTORY SOCIETY (Entomology Section) (at London School of Hygiene and Tropical Medicine), at 6.30.  
 SOCIETY OF CHEMICAL INDUSTRY (Birmingham and Midland Section) (at Chamber of Commerce, Birmingham), at 6.45.  
 INSTITUTION OF ELECTRICAL ENGINEERS (Scottish Centre) (at North British Station Hotel, Edinburgh), at 7.  
 ROYAL PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN (Scientific and Technical Group), at 7.  
 QUEKETT MICROSCOPICAL CLUB (at 11 Chandos Street, W.1), at 7.  
 SOCIETY OF CHEMICAL INDUSTRY (Edinburgh and East of Scotland Section) (jointly with Institute of Chemistry—Edinburgh and East of Scotland Section) (at 36 York Place, Edinburgh), at 7.30.  
 ROYAL ANTHROPOLOGICAL INSTITUTE, at 8.30.

#### WEDNESDAY, DECEMBER 16.

- SOCIETY OF GLASS TECHNOLOGY (at Leeds), at 2.  
 GLASGOW UNIVERSITY ALCHEMISTS' CLUB (at Glasgow University), at 3.30.  
 ROYAL SOCIETY OF MEDICINE (Comparative Medicine), at 5.  
 ROYAL METEOROLOGICAL SOCIETY, at 5.  
 GEOLOGICAL SOCIETY OF LONDON, at 5.30.  
 NEWCOMEN SOCIETY FOR THE STUDY OF THE HISTORY OF ENGINEERING AND TECHNOLOGY (at 17 Fleet Street), at 5.30.  
 ROYAL MICROSCOPICAL SOCIETY (at B.M.A. House, Tavistock Square), at 5.30.  
 INSTITUTION OF AUTOMOBILE ENGINEERS (Leeds Centre) (at Metropole Hotel, Leeds), at 7.15.  
 FOLK-LORE SOCIETY (at University College), at 8.  
 ROYAL PHILOSOPHICAL SOCIETY OF GLASGOW (at 207 Bath Street, Glasgow), at 8.  
 ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—The British Expedition to Greenland (Films).  
 INSTITUTE OF BREWING (North of England Section) (at Midland Hotel, Manchester).

#### THURSDAY, DECEMBER 17.

- INSTITUTION OF MINING AND METALLURGY (at Geological Society), at 5.30.  
 INSTITUTION OF ELECTRICAL ENGINEERS, at 6.  
 NORTH-EAST COAST INSTITUTION OF ENGINEERS AND SHIPBUILDERS (at Mining Institute, Newcastle-upon-Tyne), at 6.  
 ROYAL AERONAUTICAL SOCIETY (at Royal Society of Arts), at 6.30.  
 ROYAL PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN, at 7.  
 INSTITUTION OF ELECTRICAL ENGINEERS (Irish Centre—Dublin) (at Trinity College, Dublin), at 7.45.  
 CHEMICAL SOCIETY, at 8.—Discussion on The Critical Increment of Homogeneous Reactions.  
 INSTITUTE OF BREWING (Scottish Section) (at Caledonian Hotel, Edinburgh).

#### FRIDAY, DECEMBER 18.

- SOCIETY FOR EXPERIMENTAL BIOLOGY (in Department of Zoology, University College), at 10.30 A.M., at 2.15, at 4, and at 5.30.  
 INSTITUTION OF ELECTRICAL ENGINEERS (London Students' Section), at 6.15.  
 ROYAL PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN, at 7.  
 SOCIETY OF DYERS AND COLOURISTS (Glasgow Section) (at George Hotel, Glasgow), at 7.15.