University and Educational Intelligence.

BIRMINGHAM.—At a degree congregation held on December 18, the degree of D.Sc. was conferred on Douglas Heber Ingall for five published papers mainly on the relation between mechanical properties of metals and alloys and heat treatment and cold-work.

THE annual distribution of prizes was held at the Sir John Cass Technical Institute on Tuesday evening, December 15, when the prizes and certificates were distributed by Sir Thomas Kirke Rose, past president of the Institution of Mining and Metallurgy The Chairman of the Governing Body, the Rev. J. F. Marr, in giving a summary of the work of the Institute for the past session, stated that real progress has been made in consolidating, strengthening and correlating the work of the science departments, in which more accommodation is much needed for advanced and research work. Twenty-seven students have been engaged in research work during the session and 11 investigations have been published, bringing the total number of papers issued from the Institute to 165. Following the distribution of awards, Sir Thomas Kirke Rose delivered an address on "Metallurgy and Minting," in the course of which he emphasised the effect the Institute has had in helping the industries of the neighbourhood and not least in its metallurgical work in aiding the Royal Mint. He dealt at some length with the still unsolved problems of minting which have so far baffled metallurgists, in order to bring out the fact that there are still worlds to conquer even in such an old-established industry as minting.

SALARIES of university professors in the United States increased rapidly after the War, so much so as to cause some temporary embarrassment to the administrators of the Carnegie Pension Fund. In the *Forum* for October, however, Dr. Frank Bohn asserts that college and university faculties are being deserted by their first-class members at a rate which calls for a drastic reform of the salary schedules. In a case which he cites as typical, a professor of psychology left the university where he was receiving 5000 dollars a year, and accepted an advertising position in New York in which he was able to earn five times as much. Dr. Bohn suggests that all major gifts to the universities, say those amounting to ten million dollars or more (which totalled during the past ten years no less than 1,435,500,000 dollars) should during the next ten years be devoted to the increase of salaries of university teachers. He holds that the starvation of the teaching profession is destroying the very foundations of higher education, and civilisation is in jeopardy of being submerged in "the noisy flood of ignorance and vulgar materialism." The universities are becoming less and less capable of fulfilling the hope of a generation ago that they would be the prophets, the priests, and the philosophers of democracy. Nor is "starvation" of their professors the only reason. They suffer primarily from elephantiasis, and the first step might well be a restriction of the number of students by imposing entrance tests which would be at least as severe as the general demands made of the Rhodes scholars. The group of professional schools should include only law, medicine, education, public administration, and the beaux arts. The number of students being thus reduced to, say, 1500, and the professors' salaries being raised to 20,000 dollars as a minimum, the universities' best teachers would no longer seek to escape on the first convenient opportunity, and the intellectual élite of the land would be drawn to them.

Societies and Academies.

LONDON.

Physical Society, November 13.—R. G. **Edwards** and B. **Worswick**: On the viscosity of ammonia gas. The viscosity of ammonia gas has been determined at three different temperatures by transpiring the gas through a capillary tube which had previously been calibrated with air. Sutherland's constant is found to be roughly 370, and the mean collisional area of the ammonia molecule $0{\cdot}633 \times 10^{-15}$ sq. cm.—T. G. **Hodgkinson**: Valve maintained tuning forks without condensers. The conductance of the valve grid decides the direction in which the electrode coils must be wound. It is also advantageous, particularly in the case of low frequency forks, to interpose transformers between the valve electrodes and the fork magnets.—C. **Chree**: The times of sudden commencements (S.C.'s) of magnetic storms: observation and theory. Dr. Bauer's early claim that S.C.'s are propagated from east to west or west to east, with velocities of from 100 to 200 kilometres per second, has been criticised adversely. Since then, Prof. S. Chapman and Fr. Rodés, of the Ebro Observatory, have propounded theories differing from one another and from Dr. Bauer's. Recently Dr. Bauer and Mr. W. J. Peters have concluded that the motion in longitude is much more rapid than according to Dr. Bauer's original estimate, and that it is really a case of propagation from the magnetic equator towards either magnetic pole. The Section of Terrestrial Magnetism and Electricity of the International Union of Geodesy and Geophysics has recently approved a scheme aiming at the construction and use of special instruments to find out whether S.C.'s have a finite rate of propagation. Suggestions are made as to the new apparatus and the stations most suitable for the investigation.

Royal Microscopical Society, November 18.—Sydney **Dickenson**: A simple method of isolating and handling individual spores and bacteria. The spores or bacteria are moved from place to place under continual observation in a local thickening of a water film. This water film is formed between a film of agar and a fine glass rod, which is moved in three dimensions by an apparatus designed for the purpose.

Royal Meteorological Society, November 18.—Sir Gilbert **Walker** and E. W. **Bliss**: On correlation coefficients: their calculation and use. An account is given of a new method of working out correlation coefficients. Calculations are shown (i.) of the likelihood that with a given coefficient r, the forecast and the actual departures will have the same sign, and (ii.) of the frequency with which, r being given, it will be possible to make a forecast with a 4 : 1 chance in its favour.—Catharine O. **Stevens**: Note on the variations in transparency of the atmosphere observed by means of a projected telescopic image of the sun. There is relation between the colours associated with a projected telescopic image of the sun in a darkened room and issues of weather. Meteorological conditions normal to clear weather with rising barometer yield a predominance of red, orange, and blue, to the exclusion of other colours. With steady barometer and cloudless sky, any pronounced departure from this colour-scheme is informative. Thus, if green is included, rain threatens; if purple or violet, electrical conditions are indicated; and in case all colour is whitened, a fall of barometric pressure is heralded.—N. L. **Silvester**: Notes on the behaviour of certain plants in relation to the weather. The analysis of 1300 observations upon pimpernel, daisy, chickweed, clover, dandelion, marigold, and gentian

to test the local forecast value of plants reputed in weather-lore gives a negative answer. Temperature of the soil surrounding the roots is a control factor in the movements of daisy and chickweed. Above the critical temperature in these two plants, and in the pimpernel, relative humidity becomes the dominant factor—a value of 80 per cent. approx. being the critical maximum in every case. Clover leaves respond to wind velocity. The closing movement commences when the velocity at 42 ft. above the surface exceeds 20 m.p.h. Plants responding to relative humidity can thus be used for prediction of rain only in so far as its incidence is preceded by the pre-requisite humidity increase.

Society of Public Analysts, December 2.—J. S. **Owens**: Measuring the smoke pollution of city air. The methods of measuring smoke pollution are based on: (*a*) Measurement of deposit from the air; and (*b*) measurement of suspended matter before it is deposited. The methods of the Advisory Committee on Air Pollution fall under the headings of: (1) Measurement of deposit by means of standard gauges; (2) measurement of suspended impurities by means of automatic filters, or records; and (3) measurement with the Owens' jet dust counter. The material trapped on dust records from 50 c.c. of air on an average winter's day in London weighs about 1/20,000 mgm., and consists of about 600,000 particles.—Oscar L. **Brady** and Gladys V. **Elsmie**: 2 : 4-Dinitrophenylhydrazine as a reagent for aldehydes and ketones. Aldehydes and ketones can be identified by the crystalline forms, colours and melting points of the dinitrophenylhyrazones which they yield with 2 : 4-dinitrophenylhydrazine. A solution of the hydrochloride is a suitable reagent for aldehydes and ketones soluble in water; it gives a filterable precipitate with 0·003 gm. of acetone or acetaldehyde.—Gunner **Jörgenson**: The determination of phosphoric acid as magnesium ammonium phosphate. The most trustworthy method of obtaining magnesium ammonium phosphate of the correct composition is to precipitate it from a nearly boiling solution (accuracy about 1 : 1000). This is the only sufficiently exact method for determining phosphoric acid in mineral phosphates and fertilisers. Precipitation of ammonium phosphomolybdate in the cold is less accurate (accuracy about 1 : 100). Precipitation of magnesium ammonium phosphate from a cold solution gives a precipitate much affected in composition by the conditions of precipitation.—C. H. **Thomson**: On the effect of blowing on the composition of certain fatty oils. The rise or fall in the composition, viscosity, and other constants of cottonseed, whale, sperm and shark oils are simultaneous at each stage of the process, but the rates of change are not the same. The changes produced by varying the conditions of "blowing" are not comparable, except that the viscosity and refractive index rise simultaneously. None of the oils after "blowing" yields ether-insoluble bromides.

CAMBRIDGE.

Philosophical Society, November 23.—R. C. **Punnett**: On a case of matriclinous inheritance in Antirrhinum.—J. B. S. **Haldane**: The change with age of a linkage between Mendelian factors in fowls.—M. S. **Pease**: A note on the inheritance of yellow fat in rabbits.—K. **Emeléus**: Notes on the electrical counter.

DUBLIN.

Royal Dublin Society, November 24.—K. C. **Bailey**: The radiations from radon promote interaction of ammonia with either carbon monoxide or carbon dioxide. In both cases ammonium cyanate and urea were formed. No ammonium cyanide was thus obtained from ammonia and carbon monoxide.—Paul A. **Murphy** and R. **McKay**: Methods for investigating the virus diseases of the potato, and some results obtained by their use. Most experiments on these diseases require two years to carry out, and necessitate keeping the plants free from insects during the first year. A method is now described whereby tubers may be infected with the mosaic diseases during the winter and the final results secured in June, the plants being grown in the open field. The method is more trustworthy than any previously used. It also separates the mosaics from leaf-roll. Methods more exact than those hitherto used are described for determining the rate of spread of the virus in a plant.—E. J. **Sheehy**: An examination of the errors introduced by the various approximate methods used for estimating the total quantities of milk and butter fat produced during a lactation.

MANCHESTER.

Literary and Philosophical Society, November 24.—Kenneth M. **Smith**: A study of the feeding methods of certain sucking insects in relation to the spread of "virus diseases" of the potato by such insects. "Mosaic" disease in potato is disseminated by insects, more particularly by those of the sucking type, such as aphides or leaf-hoppers. The whole process of infection of a healthy potato plant with mosaic disease would appear to be somewhat analogous to the infection of man with malaria by the mosquito. The insects have been studied with the sucking organ *in situ* in the tissue of the plant host. By this method it is possible to determine the exact part of the tissue tapped. Other points elucidated include the effect of the salivary secretions of the insect upon the health of the plant, the path followed by the beak through the tissue, *i.e.* an inter- or intra-cellular path, and the method of penetration of the cells, whether by pressure alone or by the solvent effect of the saliva upon the cell walls. Those insects which tap the phloem of the vascular bundles seem to act as carriers. Undue disorganisation of the surrounding tissue by the salivary secretions of the insect may tend to isolate the virus and thus prevent infection. This appears to be the case with certain insects the saliva of which is unusually toxic to the plant.

PARIS.

Academy of Sciences, November 16.—E. **Fichot**: The submarine relief of the Bay of Biscay. The supposed plateau in the Bay of Biscay does not exist. The outline is unchanged since the survey made in 1828.—Jean Baptiste **Senderens**: The preparation of the ether oxides of the fatty series. Details of the preparation of ethers from heptyl, cetyl, secondary amyl, and allyl alcohols, using sulphuric acid as catalyst.—Ernest **Laura**: An extended class of surfaces.—Georges **Bouligand**: Some points in the theory of harmonic functions.—A. **Guillet**: The chronostrobometer.—Alex. **Véronnet**: Equilibrium through the influence of radiation alone is impossible in the sun and in the stars. Internal equilibrium is isothermal and homogeneous.—Paul **Helbronner**: The geodesic junction of Corsica and continental France.—Mlle. A. **Serres**: A new magnetic state of the cobalt ion $Co^{\cdot\cdot}$.—A. **Portevin** and P. **Chevenard**: The influence of cold hardening and of tempering on the elastic properties of various metals and alloys.—A. **Petit**: Contribution to the study of the aluminium silicon

alloys.—Diaz de **Barros**: The nuclear numbers. The nuclear number is defined as a whole number equal to half the difference between the atomic weight of an element and its atomic number. Some properties of the numbers thus defined are given.—Raymond **Delaby**: The isomerisation of the vinyl-alkyl-carbinols $CH_2 : CH . CH(OH) . R$ into β-alkyl-allyl alcohols $CH_2(OH) . CH : CH . R$. The chain of reactions is as follows: addition of bromine, action of sodium formate, decomposition by heat of the diformin and saponification of the formic ester of the primary alcohol required. The operations are simple and yields fair (20 per cent.).—René **Bourret**: The Annamitic chain and the Bas-Laos plateaux to the west of Hué.—Eugène **Raguin**: The discovery of a fauna of Foraminifera, very probably Cretaceous, in the highly metamorphosed limestones of the Vallon du Pâquier near Grand-Motte (Savoy).—R. **Cerighelli**: The influence of the conditions of the medium on the germination of seeds in the absence of calcium. Whether the culture medium is sterile or not, the cotyledons immersed or not, or whether the water is present as liquid or vapour, it is proved that seeds cannot germinate properly in the absence of calcium. —V. **Lubimenko**: Chromatic adaptation in the marine algæ. Marine algæ are very poor in chlorophyll, the amounts found varying from 37 per cent. (green algæ) to 18 per cent. (red algæ) of the amount usual in higher plants. The red algæ adapt themselves to the light in two different ways: each species increases or diminishes the total quantity of pigment according to the depth. The proportion of phycoerythrine varies with the different species increasing with the depth below sea-level.— — **Eberhardt** and J. **Chevalier**: A new treatment of the diseases of the potato. The plants are sprayed with an emulsion of a thiohydrocarbon derived from resin by a simple process. The results of experimental cultures with eight kinds of potato are given. The treatment destroys parasites, arrests the development of fungi, and gives an increased weight of crop.—E. **Séguy**: The characters common to the Œstridæ and the Calliphorinæ.—Maurice **Piettre**: The preparation of the albumen of muscle or myoalbumen by the acetone method; its principal properties. Full details are given of the method adopted for the separation and purification of myoalbumen. Its properties are similar to those of serum albumen, lactalbumen, and ovalbumen, but is differentiated by coagulating at 45°-47° C., not as a fine sandy precipitate but in small flocks, and by its specific rotatory power, about half that of serum albumen.—Max **Aron**: The evolution of the genital glands of young tritons transplanted into adults of the same species. The idea of internal conditions limiting the development of the sexual cells.—Constantin **Gorini**: Gastrococcus.

SYDNEY.

Linnean Society of New South Wales, September 30. —R. J. **Tillyard**: A new fossil insect wing from Triassic beds near Deewhy, N.S.W. Description of a wing which, from a study of its venation, is placed in a new family in the order Protohemiptera.—J. R. **Malloch**: Notes on Australian Diptera. No. vii.—I. M. **Mackerras** and M. J. **Mackerras**: The Hæmatozoa of Australian marine Teleostei. The blood of 200 marine Teleostei taken in the vicinity of Sydney, N.S.W., was examined. Two new species of Trypanosoma and three of Hæmogregarina are described, thus bringing the Australian hæmatozoal fauna into line with that of other parts of the world. In addition, a new species of Trypanoplasma is described, this being apparently the first record of the occurrence of a member of this genus in the blood of a marine fish.—G. H. **Cunningham**: Gasteromycetes of Australasia. (iii.) The genera Bovista and Bovistella. Two species are allowed to remain in Bovista, six of those recorded in Cooke's Handbook being excluded from the genus. In Bovistella three species are retained and seven species are excluded on the ground that they possess the typical *Lycoperdon capillitium*.—R. **Greig-Smith**: The influence of certain colloids upon fermentation. Pt. ii. Yeasts and bacteria have their fermentative activities accelerated by the presence of certain mineral and other colloids such as talc, kieselguhr, silica, fuller's earth, charcoal and agar. The isolated enzymes are not influenced by the same colloids.

Royal Society of New South Wales, October 7.— R. H. **Cambage**: Acacia seedlings (Pt. xi.). The first half-dozen or so of the youngest leaves first assume a recumbent position, and may actually lie down on the ground before closing their leaflets at night. Tests were made to ascertain the strength exerted by these tender leaves when regaining their upright position in the morning, and it was found that with a weight of 0·227 gm. placed at 6 cm. from the base of a leaf 8 cm. long, the terminal point of the leaf in one case was carried upwards 6·5 cm.— H. R. **Seddon**, W. L. **Hindmarsh**, and H. R. **Carne**: Further observations on *Stachys arvensis*, "stagger weed," as a cause of staggers or shivers in sheep. As frequently happens with poisonous plants, it is not equally noxious at all stages, and its harmfulness depends to some extent upon the type of sheep which are fed upon it. Thus it has happened that certain feeding experiments have been entirely negative, whilst in others all animals have developed staggers. Green, succulent plants produce staggers, whereas yellowish, harsh plants are comparatively or entirely harmless. The staggers-producing principle seems to be most abundant in, if not confined to, the seed, and is contained in the ether-soluble fraction of the seed. When removed to other feed, sheep rapidly lose the staggers condition, certainly within a week. Young animals are much more susceptible than adult sheep.—F. R. **Morrison**: The fixed oil of the seeds of the Kurrajong (*Brachychiton populneum*, Syn. *Sterculia diversifolia*. G. Don). The oils obtained by extraction with ethyl ether and light petroleum ether respectively, were of a golden-yellow colour, and consisted of the triglycerides of palmitic, oleic, and linolic acids, together with smaller quantities of free palmitic, oleic, and linolic acids. The oil is thus of the semi-drying class.—M. B. **Welch**: Notes on the principal indigenous timbers of the natural order Saxifrageæ. There are about twenty genera in Australia, of which twelve are endemic and many are monotypic. Eight genera produce trees which reach a large size, and notably Ceratopetalum, Weinmannia, Geissois and Ackama are of commercial importance. The woods are diffuse—porous, the vessels bearing either scalariform or simple end perforations. The wood fibres show transition stages to fibre tracheids and even tracheids. The rays are normally heterogeneous and multiseriate.—R. K. **Newman**, V. M. **Trikojus**, and G. **Harker**: The use of phosphorus pentachloride in the preparation of glycerides. The preparation of a simple fatty substance, tributyrin—a compound of glycerol and butyric acid—is described. Two methods employed gave high yields. In one of these phosphorus pentachloride acts upon a mixture of glycerol and sodium butylate; in the other the tributyrin is prepared direct from glycerol and butyric acid, while special means are provided for the continuous removal of the water formed during the reaction. The pure tri-

butyrin prepared by either process has a much higher boiling point than that usually accepted, namely, 315·5° instead of 287° C. No matter what method was used, the same triglyceride was always formed, and there was no evidence of isomerism.

WASHINGTON, D.C.

National Academy of Sciences (*Proc.*, Vol. 11, No. 11, November).—Edward W. **Berry**: The age and affinities of the tertiary flora of western Canada. The flora seems to be mainly late Eocene and consists of hardwood assemblages of broad leaf types and coniferous trees resembling existing species in the Chinese uplands. The major element, of newer types, probably entered North America from Asia by land connexions in the Bering Sea region during the Upper Cretaceous or earlier Eocene.—S. **Loria**: The metastable $2p_3$-state of mercury atoms. A mixture of mercury vapour, thallium vapour, and nitrogen illuminated by light of wave-length 2537 Å.U. gives activated mercury atoms in the $2p_2$-state. On collision with nitrogen molecules, the main part of the activation energy may be retained in the $2p_3$-state of the mercury atom. The time for which the atom retains this energy depends on the surrounding gas, and can be measured, in this case, by the increase in intensity of the fluorescence spectrum of thallium.—H. D. **Smyth**: Some experiments on collisions of the second kind. Iodine vapour at a high temperature contains electrons with energies greater than that corresponding to the electron affinity of iodine (3·5 volts), due apparently to "collisions" in which an electron approaches a system of neutral iodine atom and electron; *i.e.* collisions of the second kind. Some evidence was also obtained with ozone that the critical increment of energy for decomposition is dissipated in a similar way.—Vladimir **Karapetoff**: General criterion for the circular locus of the current vector in A.C. circuits and machinery.—Edward V. **Huntington**: Postulates for reversible order on a closed line (separation of point-pairs).—Raymond **Dodge**: The hypothesis of inhibition by drainage. The hypothesis assumes that there is a definite amount of available neural energy in the nervous system which can be concentrated into specific neural paths and consequently drained from others. Using the knee-jerk and wink reflex in the human subject, it was found that the reflex action is unmodified by voluntary reaction to the stimulus. The hypothesis is therefore discarded pending new evidence.—George E. **Hale**: A test of the electromagnetic theory of the hydrogen vortices surrounding sunspots. There is no relationship between polarity and direction of whirl in 51 sunspots taken at random from three $11\frac{1}{2}$-year cycles. It would appear that hydrogen vortices are hydrodynamical phenomena rather than electromagnetic (Störmer). Direction of whirl is determined, not by the sunspot vortices beneath them, but by the east and west deflexion, due to solar rotation, of currents flowing northward and southward towards centres of attraction above sunspots.—John W. **Gowen**: Recent evolution in milk secretion of Guernsey cattle. From the records of the Guernsey Advanced Registry animals, it appears that there has been considerable increase in average age-corrected milk yields, little change in butter-fat percentage, and continuous decrease in age of cows tested. The results are due to improved knowledge of feeding and care as well as to inheritance.—Calvin B. **Bridges**: (1) Elimination of chromosomes due to a mutant (Minute-*n*) in *Drosophila melanogaster*. (2) Haploidy in *Drosophila melanogaster*. Two individuals carrying haploid tissue were found; the tissue in each case was female.—Henry D. **Hooker**: Plant growth. Carbohydrate accumulation precedes the rest period of shoots and the formation of flower-buds, suggesting that it inhibits or retards leaf formation and thus carbohydrate manufacture. These facts are in accord with the idea that plant growth is a consecutive, reversible monomolecular reaction, and a mathematical formula is developed.

Official Publications Received.

Annals of the Cape Observatory. Vol. 8, Part 7: Occultations of Stars by the Moon, observed at the Royal Observatory, Cape of Good Hope, in the Years 1907 to 1922. Under the Direction of S. S. Hough. Pp. 32G. 6*s.* net. Vol. 8, Part 8: Determination of the Elements of the Moon's Orbit, the Parallactic Inequality and the Moon's Semidiameter, from Occultations of Stars by the Moon observed at the Royal Observatory, Cape of Good Hope, in the Years 1880 to 1922. By Dr. H. Spencer Jones. Pp. 47H. 4*s.* 6*d.* net. Vol. 13, Part 1: Proper Motions of Stars contained in the Cape Fundamental Catalogue of 1846 Stars for the Equinox 1900. Computed under the Direction of Dr. H. Spencer Jones. Pp. vi+150. 35*s.* net. (London: H.M. Stationery Office.)

Cape Astrographic Zones. Vol. 8: Catalogue of Rectangular Co-Ordinates and Diameters of Star-Images derived from Photographs taken at the Royal Observatory, Cape of Good Hope. Commenced under the Direction of Sir David Gill; Completed and Prepared for Press under the Supervision of S. S. Hough. Zone −48°. Pp. xliv+497. (London: H.M. Stationery Office.) 110*s.* net.

Observations of Stellar Parallax from Photographs taken and Measured at the Royal Observatory, Greenwich, in the Years 1913–1924. Under the Direction of Sir Frank Dyson. Pp. xix+134+8. (London: H.M. Stationery Office.) 24*s.* net.

Astronomical and Magnetical and Meteorological Observations made at the Royal Observatory, Greenwich, in the Year 1923. Under the Direction of Sir Frank Dyson. Pp. 8+Axx+A54+iv+B16+C2+Dix+D41+5+Exxii+E74+20. (London: H.M. Stationery Office.) 32*s.* 6*d.* net.

University College of Wales, Aberystwyth: Agricultural Department. Advisory Bulletin No. 1: Seeds Mixture Experiments in West and Central Wales, 1915–1925. Pp. 64. (Aberystwyth.) 6*d.*

British Museum (Natural History). Christmas Booklets. B93: The Rabbit. Pp. 2+1 plate. B99: The Stoat, or Ermine. Pp. 2+1 plate. B100: The Fox. Pp. 2+1 plate. C98: The Robin. Pp. 2+1 plate. (London: British Museum (Natural History).) 6*d.* each.

Scientific and Industrial Research Council of Alberta. Report No. 14 Analyses of Alberta Coal. By Edgar Stansfield, Robert T. Hollies, and William P. Campbell. Pp. 64. (Edmonton, Alba.: J. W. Jeffery.) 25 cents.

Proceedings of the Cambridge Philosophical Society. Vol. 22, Part 6, November. Pp. 817-978. (Cambridge: At the University Press.) 7*s.* 6*d.* net.

Transactions of the Royal Society of Edinburgh. Vol. 54, Part 2, No. 3: Size in relation to Internal Morphology. No. ii.: The Vascular System of Selaginella. By Claude W. Wardlaw. Pp. 281-308. 3*s.* 6*d.* Vol. 54, Part 2, No. 4: A Monograph on the General Morphology of the Myxinoid Fishes, based on a Study of Myxine. Part vi.: The Morphology of the Vascular System. By Prof. F. J. Cole. Pp. 309-342+5 plates. 6*s.* (Edinburgh: R. Grant and Son; London: Williams and Norgate, Ltd.)

Diary of Societies.

TUESDAY, DECEMBER 29.

ROYAL INSTITUTION OF GREAT BRITAIN, at 3.—Sir William Bragg: Old Trades and New Knowledge: (1) The Trade of the Sailor.

THURSDAY, DECEMBER 31.

ROYAL INSTITUTION OF GREAT BRITAIN, at 3.—Sir William Bragg: Old Trades and New Knowledge: (2) The Trade of the Smith.

FRIDAY, JANUARY 1.

PHOTOMICROGRAPHIC SOCIETY (at 4 Fetter Lane), at 7.—E. Cuzner: Stereo-Photomicrography.

JUNIOR INSTITUTION OF ENGINEERS (at 39 Victoria Street), at 7.30.—The Manufacture of Ordnance and the Rolling Mills and Crucible Melting Department at the River Don Works of Vickers, Ltd. (Cinematograph Lecture).

SATURDAY, JANUARY 2.

ROYAL INSTITUTION OF GREAT BRITAIN, at 3.—Sir William Bragg: Old Trades and New Knowledge: (3) The Trade of the Weaver.