sum of 120,000*l.* was granted for the purpose of constructing and equipping buildings for a school of technology as a department of the University, and an annual grant of 10,000*l.* was added for maintenance. It is expected that the preliminary engineering courses will be inaugurated at the beginning of next session.

THE friends of the late Miss Rosa Morison (lady superintendent of women students at University College, London, 1883–1912) desire to raise a memorial as a tribute of the affection and respect in which they held her and as a means of commemorating her work in connection with the higher education of women. To give effect to this desire, some of those associated with Miss Morison in her work at University College, Queen's College, and College Hall, Byng Place, together with some of her personal friends, have formed a committee, the president of which is Lord Reay; chairman, Dr. T. Gregory Foster; hon. treasurer, Lady Lockyer; hon. secretaries, Miss E. Chick and Miss E. Goodyear. The precise form of the memorial will be left for decision until the funds are raised. The hon. secretaries invite those who wish to take part in this memorial to communicate with them forthwith: address, Rosa Morison Memorial Committee, University College, London (Gower Street, W.C.).

SOCIETIES AND ACADEMIES.

LONDON.

Physical Society, June 14.—Prof. A. Schuster, F.R.S., president, in the chair.—T. H. **Blakesley**: Demonstration of the use of specific gravity balls for determining very small differences of density. Experiments were quoted which indicate a sensibility such that the error which might be expected in a properly conducted experiment would be of the order 5 in the sixth decimal place. Specific gravity balls have been employed for the purpose of discriminating between the qualities of potable waters in respect of density and of testing the efficacy of softening processes. A thermometer of open scale is employed to give the temperature at which a specific gravity ball is in equilibrium with a liquid being slowly warmed or cooled through that point of temperature. If such a determination is made in distilled water at ordinary atmospheric temperatures it fixes the specific gravity of the ball at the temperature of equilibrium within four or five units in the *sixth* place of decimals. If a second observation with the same ball is made in a slightly heavier liquid, the temperature of equilibrium will be considerably higher, perhaps 2° or more, than in distilled water. By applying the coefficient of cubical expansion the density of the ball at the higher temperature can be obtained, and this is the density of the second specimen of water at the second temperature. Reference to a table of densities of distilled water will furnish its density at the higher temperature, and the difference between the two numbers will give what the author calls the density excess of the second liquid over distilled water at the higher of the two temperatures. This density excess is best quoted in parts in one million.—Dr. H. F. **Haworth**: Maximum sensibility of a Duddell vibration galvanometer. The maximum sensibility of a moving coil vibration galvanometer as a voltage detector is obtained when the flux through it is so adjusted that the back E.M.F. of the coil is equal to its CR drop; then the back E.M.F. is equal to half the applied voltage, and the current is equal to V/2R, and is in phase with the applied voltage. Increases of current sensibility of about 30 per cent. at 200~ and 40 per cent. at 1000~ were obtained on running the instrument in a vacuum, thus showing that a large part of the mechanical work produced was used in overcoming the molecular friction of the system.—F. **Stroude**: An accurate examination of the Steinmetz index for transformer iron, stalloy, and cast-iron. Experiments to provide an experimental basis, suitable for mathematical analysis, with the view of discovering some relation connecting hysteresis loss and flux density which will accord with results obtained practically to a greater extent than the empirical law due to Steinmetz. Experiments were made with transformer iron stalloy (3 per cent. silicon iron) and cast-iron, two rings of each material being tested. A set of comparative tests on one of the transformer iron rings was made by the ballistic method, and these tests show that, in general, for a given value of **B** the hysteresis loss and the value of **H** for the ballistic tests are higher than the corresponding values for the slow cyclic tests.

Royal Meteorological Society, June 19.—Dr. H. N. Dickson, president, in the chair.—Dr. G. C. **Simpson**: Coronæ and iridescent clouds. During September, 1911, the author was one of a party led by Captain Scott to survey McMurdo Sound, and on September 24, while enveloped in fog, he observed a fine fogbow. It was opposite the sun, and a measurement of the radius with a theodolite gave 38°. The bow was practically white, but a reddish tinge could be seen on the outer side. As the fog dissipated the upper sky became clearer, and the sun shone over the top of a heavy bank of fog. For some minutes the sun had a brilliant corona with bright colours, and the diameter of this corona seemed unusually large, but there was no opportunity to make a measurement. As the fog still further cleared away glimpses of the corona appeared again, and the fog under the sun became fairly brilliantly illuminated with iridescent colours, which did not appear to be part of the corona, but in places blended into it. During the whole period the temperature was between −15° and −21° F. The fur of the sleeping bags and the wool of sweaters became covered with hoarfrost. These observations show that water can exist in the atmosphere at much lower temperatures than has generally been supposed by meteorologists. It is now generally admitted that while halos are caused by the refraction and reflection of ice crystals, coronæ are due to diffraction effects of either small drops of water or thin ice needles. From certain observations made in the Antarctic, Dr. Simpson was led to doubt the possibility of ice crystals ever forming diffraction effects. This is an important question for meteorology, for if it is true, we have a powerful instrument for determining the constitution of a cloud; if there is a corona the cloud must be composed of water, while if there is a halo it must be composed of ice.—W. W. **Bryant**: The adoption of a climatological day. When observations are made only once a day, viz. at 9 a.m., it is the practice to enter the reading of the maximum thermometer to the previous day, and the reading of the minimum thermometer to the current day. Mr. Bryant does not consider that these give correct results, but that they are higher than if the readings were taken at 9 p.m. or midnight and applied to the civil day.

Royal Microscopical Society, June 19.—Mr. H. G. Plimmer, F.R.S., president, in the chair.—Lord **Avebury**: Short account of the development of pollen and of recent researches on fertilisation. The author divided pollen into: aërial pollen carried by the wind, aërial pollen carried by insects, and subaqueous pollen. The various forms of pollen were described and their distribution in the different orders enumerated. The most common form of pollen is elliptical, with three ribs, for which Lord Avebury believes there is as yet

no explanation. Such pollen was originally spherical, and only assumed the elliptical three-ribbed form after leaving the anthers and losing a certain amount of moisture by desiccation. Compositæ for the most part have spiny pollen and are entomophilous, but the Edelweiss and some allied species are anemophilous and smooth. The Rosaceæ are almost all entomophilous, with elliptic pollen, but Poterium is anemophilous with spherical pollen. The willow is entomophilous, with elliptic three-ribbed pollen; the Poplars are anemophilous with spherical pollen. Though the size of pollen does not depend entirely on the length of the pistil, and the length therefore which the pollen tube has to traverse, still, as a general rule, the longer the pistil the larger the pollen.—E. **Heron-Allen** and A. **Earland**: Some new Astrorhizidæ and their structure. Two new species of Psammosphæra and one of Marsipella were described from specimens dredged in the North Sea in connection with the work of the International North Sea Investigations (Scotland). In *P. rustica* the rhizopod constructs a polyhedral test of spicular fragments selected of suitable length and cemented side by side in a single layer, while in *P. bowmani* large flakes of mica are selected, and cemented together at the edges so as to form a polyhedral test. *M. spiralis* constructs a straight tube of minute spicular fragments of approximately equal length, which are imbedded, side by side, in a fine grey cement. The spicules are arranged in definite rows which run in a sinistral spiral round the tube.—Dr. J. F. **Gaskell**: A method of embedding tissues in gelatin. The tissue is fixed in a formalin mixture; previous to embedding all formalin must be removed, by washing in running water. The gelatin is soaked in cold water, then drained and melted, and the tissue is immersed in this in an incubator at 37° C. It is then cast in paper boxes in this gelatin and allowed to set at room temperature; when cool, it is put into a formalin vapour chamber to harden. Sections are cut by the freezing method, and can be obtained of any tissue 10μ thick and of most tissues hitherto tried 5μ sections are obtainable.

Linnean Society, June 20.—Prof. E. B. Poulton, F.R.S., president, in the chair.—C. G. **Lamb**: Diptera of the Seychelles: Lonchæidæ, Sapromyzidæ, Ephydridæ, Chloropidæ, and Agromyzidæ.—Dr. I. **Bolivar**: Saltatorial Orthoptera. The author enumerates fifty-nine species from the various islands; a number of the species and genera are new. He states that those from Aldabra consist of Asiatic and African forms, all of which are winged and easily dispersed. The fauna of the Seychelles and Amirantes is very different and much richer, containing a number of peculiar forms, eight new genera being described from the Seychelles. In the Chagos group was found a peculiar species of wingless cricket, the type of a new genus, a second species of which was found in the Seychelles.—Dr. A. **Sicard**: Coccinellidæ. The author enumerates thirteen species belonging to twelve genera, five of the species and two of the genera being new to science.—Hugh **Scott**: Coleoptera, Lamellicornia, and Adephaga. Previous to the expedition thirty-two species were known from the various islands; this number is raised to fifty-five, nine of the additional species and one genus being new to science. The faunas of the Seychelles and Amirantes on one hand, and of the Aldabra group on the other, are very distinct. The Aldabra fauna consists of Madagascar and African forms, together with a few almost cosmopolitan species; such species as are peculiar are very closely related to African species. In the case of the Lamellicornia, the Seychelles fauna contains an endemic element confined to the forests, and a non-endemic part found in the lower cultivated lands. Carabidæ were not found in the forests, and it is doubtful whether this family has any truly endemic element in the Seychelles fauna; the species are all either Madagascar species or closely related to species found in Africa and elsewhere. Two endemic water-beetles (Dytiscidæ) were found in the Seychelles, one of these being only found in the water between the bases of the leaves of endemic Pandani in the mountain-forests.—Dr. **Budde-Lund**: Terrestrial Isopoda of the Percy Sladen expedition.—S. F. **Dunn**: Revision of the genus Millettia.—Carl **Christensen**: Ferns of the Seychelles and Aldabra.—C. **Warburton**: Acarina of the Percy Sladen expedition.—Capt. C. F. U. **Meek**: Correlation of somatic characters.

CAMBRIDGE.

Philosophical Society, May 20.—Prof. Seward in the chair.—Prof. R. C. **Punnett**: An experiment with rabbits. Speaking generally, black coat-colour in rodents behaves as a simple recessive to agouti, and the work of previous investigators has shown this relation to hold good for rabbits. In the present set of experiments certain blacks from Himalayan × yellow or × tortoise produced when mated together five types of coloured offspring, viz. tortoise, yellow, black, agouti-black, and agouti.—H. H. **Brindley**: The proportions of the sexes in *Forficula auricularia*. In 1892 Bateson observed that male earwigs on the Farne Islands are dimorphic as regards their callipers (Bateson and Brindley, Proc. Zool. Soc., November, 1892). Since then a statistical examination has been made of the variation of the callipers, especially of earwigs from islands. The present note is an outcome of the enumeration of the sexes in the collections made. It appears that the proportions of the sexes vary considerably with the locality and to a less degree in different years in the same locality. As a rule, females exceed the males by about 10 per cent.—H. H. **Thomas**: *Stachypteris Hallei*, a new Jurassic fern. The paper describes some specimens recently discovered in the lower estuarine beds of Whitby and Marske. The fertile segments were composed of imbricating scales bearing single large annulate sporangia. Spores with peculiar reticulate walls were obtained from these. Fertile specimens of this genus had only been found previously in the Corallian of Verdun, but no sporangia had been observed.—G. R. **Mines**: Some observations on electrocardiograms of cold-blooded animals. (Preliminary note.) Simultaneous records were taken of the movements of auricles and ventricle, of the electrical variation of the ventricle, and also, in cases where the organ was perfused, of the systolic output of the frog's heart. The main object of the inquiry, which is still in progress, is the elucidation of the point of action of electrolytes which affect the cardiac mechanism.—Dr. H. B. **Fantham** and Miss Annie **Porter**: The structure and homology of the microsporidian spore, as seen in *Nosema apis*. The paper contains (1) an account of the structure and development of the spore of *N. apis*, investigated by the authors in connection with Isle of Wight bee disease; (2) the homology of the spore structure of *N. apis* with respect to other Microsporidia, Myxosporidia, and Sarcosporidia is then discussed.—R. **Hargreaves**: Cyclic paths for rays reflected at an elliptical boundary.—G. **Stead**: Note on the spectrum of argon. In this paper a short account is given of an attempt to determine the conditions under which the red and blue spectra of argon are produced.

EDINBURGH.

Royal Society, June 3.—Sir William Turner, K.C.B., president, in the chair.—Dr. Dawson **Turner**: Experiments in radio-activity; the production of the thorium emanation and its use in therapeutics. After a brief account of the radio-active properties of thorium, especially in connection with applications to surgery, the author described how he had been led to try with success thorium emanation in the case of a patient suffering from an advanced excavating rodent ulcer.—Dorothy **Court**: The use of antiseptics in autolysis of animal and vegetable matter.—Prof. A. H. **Gibson**: The equilibrium of the circular-arc bow-girder.—Dr. J. Cosmo **Melville** and R. **Standen**: The marine mollusca of the Scottish National Antarctic expedition; Part II., being a supplementary catalogue. Some fifty species not enumerated in the first part were described, one of them, *Chaetopleura brucei,* being named after the leader of the expedition. More than twenty of the species were described as new.—Prof. David **Hepburn**: Observations on the anatomy of the Weddell seal (from the collection of the Scottish National Antarctic expedition). Part III., the respiratory system and the mechanism of respiration. The flexibility of the thoracic wall and the peculiarities of attachment of certain muscles in association with the marine habitat of the seal were contrasted with those of man. The key to the whole mechanism of inspiration was found to be in the contraction of the diaphragm. The investigation seemed to throw light on the differences of respiration in quadrupeds and man, the difference in attitude leading to a form of chest movement requiring in each case the minimum muscular effort. In the avoidance of severe muscular effort when a smaller effort will serve the purpose was found the source of the difference between the adult male and female types of breathing.

June 17.—Prof. Cossar Ewart, vice-president, in the chair.—Dr. **Brownlee**: Inheritance of hair and eye colour. The paper was an analysis of observations made by the late Dr. Beddoe. The Mendelian laws were obeyed in a remarkable degree. The coupling ratio between hair and eyes was probably 9 and not 7, as present theories led us to expect. As regards the use of the correlation coefficient or the contingency coefficient in estimating heredity it appeared that, at least in certain instances, it could be taken more as a test of the degree of race mixture than of actual heredity.—Dr. Robert **Campbell**: The Upper Cambrian Rocks at Craigeven Bay, Stonehaven; and the Downtonian and Old Red Sandstone Rocks of Kincardineshire. The fossils recently discovered in the black shales associated with typical spilitic lavas at Craigeven Bay, and forming part of the boundary fault series, clearly show that they are of Lower Palæozoic age, probably Upper Cambrian. In the second paper it was maintained that nearly 3000 ft. of strata in the neighbourhood of Stonehaven formerly regarded as Old Red Sandstone must be assigned to the Downtonian (Upper Silurian). The Downtonian rests unconformably on the Upper Cambrian, and is overlaid conformably by the Lower Old Red Sandstone.—Prof. C. **Chilton**: The Amphipoda of the Scottish National Antarctic expedition. The collection contained sixty-two species, of which nine were described as new. There were, however, variations, which some naturalists might be tempted to describe as new, variations which were probably climatic. The results obtained supported the view that so-called bipolar species were cosmopolitan in their distribution, being of smaller size and in much smaller numbers in the equatorial regions.—Dr. J. **Rennie**: The Cestoda of the Scottish National Antarctic expedition. The collection consisted of seven adult species and three in the bladderworm stage. Of the former four were new species of Dibothriocephalus, viz. *D. scoticus* and *D. coati,* from *Stenorynchus leptonyx, D. mobilis,* from Weddell's seal, and *D. pygoscelis,* from a species of penguin. One of the bladderworms lives in the blubber of Weddell's seal. A remarkable feature of Antarctic tapeworms is the large number of minute and delicate forms.—W. J. **Jackson**: The Brachiopoda of the Scottish National Antarctic expedition. The collection added materially to our knowledge in regard to the geographical range of certain forms, those from the vicinity of Coat's Land being of exceptional interest.

DUBLIN.

Royal Irish Academy, June 10.—Rev. Dr. Mahaffy, president, in the chair.—T. **Alexander** and J. T. **Jackson**: New graphical construction of maximum bending moments, on short girders, due to a locomotive with a kinematical model showing instantaneous diagrams.—R. **Jack**: Magnetic resolution of the spectrum lines of niobium. Lines giving ten, eight, six, and fewer components were observed. The separators were found, in general, to satisfy the Runge and Ritz rules. Two short series and a number of equal differences were found connecting lines having the same Zeeman effect. A number of dissymmetrical separations were observed, and a probable explanation of the variation in dissymmetry given. It was shown that for substances with odd valencies an even number of components predominates among lines with many components, and for those with even valencies an odd number of components.—D. J. **Scourfield**: Fresh-water Entomostraca (Clare Island Survey). Ninety species were found, one of which is new to science and twenty new to Ireland.—Miss J. **Stephens**: (1) Cœlenterata; (2) Marine Sponges (Clare Island Survey). (1) The majority of the Cœlenterata collected during the survey belong to species which are fairly common all round the Irish coast. *Tubiclava cornucopiae, Corymorpha nutans,* and *Lovenella clausa* are among the rarer hydroids that were found. *Depastrum cyathiforme* is recorded for the second time for Ireland. The Madreporaria are represented by *Caryophyllia Smithi* and *Sphenotrochus Wrighti.* Only one fresh-water species was found, namely *Hydra vulgaris.* It occurred on Clare Island and in lakes on the adjacent mainland. (2) Sixty-four species of marine sponges were collected. Of these, twenty are recorded for the first time for the Irish coast (seven of them being new to Great Britain), and two are described as new species. The sponge-fauna of Clare Island with its exposed rocky coasts is compared with that of the sheltered bays of the adjacent mainland, and the chief differences between them are touched upon. One of the most striking differences noticed was the scarcity of the Calcarea, as regards number of species, off the limestone shores of the islands at the head of Clew Bay, as compared with the number of species found off Clare Island, where the rocks are non-calcareous.

PARIS.

Academy of Sciences, June 24.—M. Lippmann in the chair.—Armand **Gautier** and Paul **Clausmann**: Control of the new method of estimating fluorine. Detection of the smallest traces of this substance. A description of analytical results obtained by the application of methods described in two previous papers. Quantities of fluorine of the order of 1 to 5 mgr. can be determined with an error of less than 0·1 mgr.; amounts of 0·002 to 0·001 mgr. can be detected.—A. **Chauveau**: Stereoscopic inversions caused by the retinal images of simple points in space.—M. **Gouy**: Study of the D line in absolute units and application to solar

physics.—M. de **Forcrand**: Some physical constants of cyclohexanol. Determination of the cryoscopic constant, heat of solution, of fusion, and of evaporation. Pure cyclohexanol is very hygroscopic, and special precautions had to be taken to exclude moisture during the measurements.—Paul **Sabatier** and M. **Murat**: The direct addition of hydrogen to the diphenylethanes. The preparation of the dicyclohexylethanes.—R. **Lépine** and M. **Boulud**: The resorption of glycose in the tubuli of the kidney.—J. **Trousset**: The orbit of the eighth satellite of Jupiter.—Émile **Belot**: An experiment reproducing the helices of spiral nebulæ.—A. **Buhl**: The partial differential equations defining surfaces susceptible of passing through a closed contour.—Maurice **Gevrey**: Certain partial differential equations of the parabolic type.—M. **Mesnager**: Thick circular plates.—Th. **De Donder**: The movement of electrons in a given magnetic field.—U. **Cisotti**: Elastic deformations without tangential stresses.—Jean **Becquerel**: The inversion of Hall's phenomenon in bismuth. The superposition of two galvano-magnetic effects of opposite sense. The experiments described show that in a sufficiently intense field Hall's phenomenon in bismuth changes its sign; these results appear to be opposed to the electronic theory of conductivity.—A. **Pérard**: The measurement of small industrial standards with plane faces by an interference method. An account of the examination of some Johansson 5 mm. and 1 mm. standards. The maximum error was 0·12μ.—Albert **Colson**: The existence of four inactive tartaric acids and on the law of mass action. Remarks on some recent papers by MM. Darzens and Séjourné and M. Le Chatelier.—Daniel **Berthelot** and Henry **Gaudechon**: The wavelength of the active radiations in the photochemical synthesis of ternary compounds.—Paul **Lebeau**: Uranic anhydride and its hydrates.—L. **Cavel**: The gases from the mud of septic tanks. The gas obtained by dry distillation of the mud gave a gas with a calorific value of 3500 calories per cubic metre.—G. **Darzens** and H. **Leroux**: The glycidic ethers of β-naphthanone, naphthanoic aldehyde, and methylnaphthanylketone.—A. **Mailhe**: New azoic colouring matters from the oxide of diphenyleneamine.—G. **André**: The distribution of the mineral bases in barley in the course of the growth of this plant.—R. **Fosse**: The production of urea by the hydrolysis of albuminoids. Urea is obtained by the action of alkaline solutions upon egg albumin.—Marcel **Baudouin**: The diseases of prehistoric animals. Deformities in the cave bear (*Ursus speloeus*) due to spondylitis.—Charles **Nicolle**, A. **Conor**, and E. **Conseil**: The intravenous injection of the living cholera bacillus.—Albert **Berthelot** and D. M. **Bertrand**: Some biochemical properties of the *Bacillus aminophilus intestinalis*.—M. **Taphanel**: Disinfection of the hands by tincture of iodine and decoloration by bisulphite in surgery.—Jules **Courmont** and A. **Rochaix**: The anti-typhoid immunisation of man by the intestines.—H. **Carré**: An abundant source of pure agolaxic virus.—A. **Moutier**: External hypotension and internal hypertension.—J. **Chaine**: The influence of high temperatures on certain parasitic insects of the organism.—Paul de **Beauchamp**: Contribution to the experimental study of sexuality in Dinophilus.—Ph. **Négris**: The age of the Athens schists.—H. **Mansuy**: Recent palæontological discoveries in Indo-China.—F. Montessus de **Ballore**: The probable constancy of the world's seismic activity.

CAPE TOWN.

Royal Society of South Africa, May 15.—Mr. L. Péringuey, president, in the chair.—R. **Dümmer**: A revision of the genus Alepidea, Delaroche. The paper contains full descriptions of the twenty-three known species of the African genus Alepidea, of which eleven are described as new.—Prof. **Jolly**: Positive electrical change in isolated nerve. The various theories which have been put forward regarding the causation of positive electrical change in isolated nerve are critically discussed, and the results obtained by different instruments and methods of investigation correlated.—J. **Walker**: A short note on the occurrence of a Leucocytozoon infection. Host—the ostrich. In November, 1911, when investigating the cause of the mortality amongst ostrich chicks on a farm in the Middelburg district, Cape Province, the presence of a Leucocytozoon infection was noted in some instances in blood smears collected from sick chicks. The Leucocytozoon not having been described yet, the author proposes to call it *Leucocytozoon struthionis*.—Dr. **Moir**: Valency and chemical affinity. Two and a half years ago the author showed that the atomic weights could be fairly exactly calculated by making use of a proton, μ, of atomic weight, about 0·009. The author has now discovered evidence that this proton may really be the true cause of valency and of chemical combination. This evidence consists in the fact that practically the same value of μ is given by the three most exact determinations of molecular ratios that he is acquainted with.—Prof. **Gilchrist**: Description of a new species of Trygon from South Africa. Three species of the Pijl-staart or Stingray (Trygon) have been recorded from South African waters. A description of a fourth, which seems to be a new species, is given in the paper.

MELBOURNE.

Royal Society of Victoria, March 14.—Annual meeting. Mr. J. Shephard elected president, and in the chair.—W. T. **Kendall**: Esperanto and science.—J. A. **Gilruth**: The introduction and spread of the cattle-tick (*Boophilus annulatus*, var. *microplus*), and of the associated disease, tick-fever (Babesiasis) in Australia. The introduction is not due to buffalo, but dates from importation of Batavian cattle from the Dutch Indies in 1872. These have crossed with Australian cattle, and the disease has spread over the country by the main stock routes.—J. A. **Gilruth** and Georgina **Sweet**: Further observations on *Onchocerca gibsoni*, the cause of worm nodules in cattle. Originally introduced either in Indian cattle (*circ.* 1840) or in Timor cattle (between 1824 and 1840). Previous characteristics of infection corroborated. Experiments on life-history show failure of direct infection, soil, direct contact, and three species of louse as intermediaries. Further experiments being arranged.

April 11.—Mr. J. Shephard, president, in the chair.—A. M. **Lea**: Australian and Tasmanian Coleoptera inhabiting or resorting to the nests of ants, bees, and termites; supplement.—E. C. **Joshua**: A new Holothurian of the genus Tæniogyrus found in Port Phillip Bay.—Walter **Stapley**: The occurrence and development of cervical ribs in man and some of the mammals that have abandoned quadrupedal progression. Cervical ribs in the mammalian neck express the breaking down of the fixed mammalian neck-type in response mainly to impulses generated by the presence of the lung in the neck due to upright position.

May 9.—Mr. J. Shephard, president, in the chair.—A. J. **Ewart**: The ascent and descent of water in trees. A poisonous and then a coloured solution were caused to be drawn up the tree. The sap in ascent avoided the poisoned parts. There was considerable loss through the roots.—A. J. **Ewart** and Bertha **Rees**: Contributions to the flora of Australia, No. 19.