

ST. ANDREWS.—At the summer graduation ceremony on July 6 the honorary degree of LL.D. was conferred upon Mr. W. E. Clarke, keeper of the zoology department, Royal Scottish Museum, Edinburgh; Mr. C. T. Clough, district geologist, Geological Survey of Scotland; Dr. R. B. Don; Mr. L. R. Farnell, rector of Exeter College, Oxford; Dr. C. G. Knott, lecturer in applied mathematics, University of Edinburgh; Dr. J. Musgrove, Bute professor of anatomy, St. Andrews, 1901, 1914; and Prof. W. R. Scott, professor of economics, University of Glasgow.

MR. ASQUITH stated in the House of Commons on July 10 that he does not propose to advise the appointment of a Royal Commission on Education. The Government is itself engaged in a comprehensive review of the system of education as a whole.

At the invitation of the Paris Academy the Imperial Academy of Sciences of Petrograd has appointed three of its members as delegates to the International Commission established on the initiative of the Paris Academy for the purpose of taking steps, after the war, of restoring so far as possible the library of the University of Louvain burnt by the Germans.

THE recently established School of Slavonic Studies at King's College, London, wishes to form a special Slavonic library, and hopes for the sympathetic co-operation of Russian learned societies by donations of suitable books. This having been brought to the notice of the Imperial Academy of Sciences of Petrograd by the Minister of Public Instruction, the Academy at once expressed its willingness to contribute to the desired end, and directed that a catalogue of the Academy's publications be sent to the school with the request that a list be prepared of the works which it wishes to receive.

NUMEROUS bequests to aid medical science in the United States are reported in a recent issue of *Science*. By the will of the late Dr. J. W. White, trustee of the University of Pennsylvania, and Prof. J. R. Barton, emeritus professor of surgery, 30,000*l.* is bequeathed in trust as a permanent endowment fund, the income to be used for establishing a professorship of surgical research in the medical department of the university. Two hundred thousand pounds will be available for use by the Washington University Medical School, with the opening of the new term in September, through the gift to the school of 33,200*l.* each by Mr. E. Mallinckrodt and Mr. J. T. Milliken, of St. Louis. One fund of 100,000*l.*, to be known as the Edward Mallinckrodt Fund, will be devoted to teaching and research work in pediatrics. The other fund of 100,000*l.*, to be known as the John T. Milliken Fund, will be devoted to teaching and research work in medicine. The funds will enable the medical school to employ physicians in these departments for their full time. The amount, in addition to the Mallinckrodt and Milliken donations, to bring the fund to 200,000*l.* has been given by the General Education Board. A movement has been inaugurated to secure at least 400,000*l.* additional endowment for Jefferson Medical College, Philadelphia. Mr. D. Baugh, founder of the Baugh Institute of Anatomy and Biology, subscribed 20,000*l.*, provided that an equal amount was raised on or before June 16. The executors of the estate of the late Mr. Emil C. Bundy, of New York, have paid over to Columbia University the sum of 20,000*l.* for research work in cancer.

ATTENTION may be directed to the help rendered to manufacturers and business men for some time past

by the librarian and staff of the City of Coventry Public Libraries. From time to time lists of recent books in technical chemistry, metallurgy, etc., are issued in printed form and circulated widely among those likely to be interested. In addition, lists are prepared and issued dealing, e.g., with a specific metal and its alloys. We have before us one such relating to aluminium, which gives an admirable series of references to original papers and books published in the last ten years. These lists are not only circulated among manufacturers and business men, but are also given a wider publicity by being pasted inside books on the same subject. The Central Library and its branches are well supplied with technical journals, to which the public have access without any restriction. The technical section is reinforced by cutting out the best articles from duplicate and unbound periodicals, mounting them on sheets, and exposing them in boxes where they are classified under appropriate headings. In addition, the staff of the library invites inquiries for information, whether made verbally, or by letter, or by telephone. All inquiries are treated as confidential, and no effort is spared to supply the fullest and most trustworthy information. No doubt the instance we have quoted is not unique, but it appears worth while directing attention to a practice which must be most helpful to the technical staff of manufactories, particularly where, as is so often the case, few, if any, technical books or periodicals are taken. The example of the staff of the Coventry Public Libraries is warmly to be commended.

SOCIETIES AND ACADEMIES.

LONDON.

Challenger Society, June 28.—Dr. E. J. Allen in the chair.—Capt. Campbell **Hepworth**: The meteorology of Davis Strait and Baffin Bay, including ice distribution and frequency. The paper was based on a set of charts that had been prepared in the Meteorological Office.

DUBLIN.

Royal Dublin Society, June 20.—Dr. J. M. Purser in the chair.—Prof. W. H. **Thompson** and J. **Pimlott**: The possibilities of food production in the United Kingdom.—Prof. G. H. **Carpenter**: Injurious insects and other animals observed in Ireland during the years 1914 and 1915. The summer of 1914 was noteworthy for the great abundance of the "diamond-back" moth (*Plutella cruciferarum*) on turnip crops, both in the east and west of Ireland. Nymphs of the large shield-bug, *Tropidocoris rufipes*, were very destructive to young apples in Co. Kilkenny in the summer of 1915. Another unusual observation was the abundance of two weevils, *Phyllobius argentatus* and *Strophosomus coryli*, on larch.

Royal Irish Academy, June 26.—The Most Rev. Dr. Bernard, Archbishop of Dublin, president, in the chair.—M. W. J. **Fry**: Impact in three dimensions. The paper showed that the course of impact in three dimensions can be minutely followed in the most general case. There are two or four directions (according to the value of the coefficient of friction) in which if sliding initially takes place it persists without change of direction, and of these alternate ones correspond to stable motions. Any other direction of sliding tends to get parallel to the adjacent stable direction, and does so if the impact is sufficiently prolonged, and at the same time the velocity of sliding vanishes, but does not if the direction is that special one along which sliding may take place, when

the velocity of sliding vanishes and rolling is impossible. In three dimensions the velocity of compression may vanish three times, so that before the first period of compression is over a second one may intervene. No matter how rough the bodies are, sliding may not cease, and the solution often given of impact between perfectly rough bodies may be inaccurate.—H. Kennedy: The large ions and condensation nuclei from flames. An examination is made of the nature of the large ions and nuclei from flames, which seem to be identical with those studied by Aitken and occurring in the atmosphere. The rate of decay of ionisation in the case of the large ions from flames is found to be according to the law $dq/dt = -\beta q^2$, where q is the charge of one sign per c.c. and β a constant. The number of nuclei per c.c. was measured by Aitken's apparatus. It is found that the nuclei disappear according to the law $dn/dt = -\gamma n^2$, and the rate of disappearance seems to be the same whether the nuclei are charged or uncharged. The large ions carry multiple charges, and the value of the charge depends on the circumstances of production. The mobility of the large ion, so far as experiment has gone, seems to be the same in all circumstances of production. The mobility must, therefore, be independent of the charge. The formation of the nucleus does not depend on the presence of the charge.

EDINBURGH.

Royal Society, June 4.—Dr. J. Horne, president, in the chair.—Prof. A. A. Lawson: The prothallus of *Tmesipteris tannensis*. *Tmesipteris* and the closely-related *Psilotum* form a group the main interest of which lies in their phylogenetic isolation. Both genera are limited to the tropics and sub-tropics, *Tmesipteris* being found in the South Sea Islands, Australia, New Zealand, and parts of Polynesia. With the exception of certain important descriptions by Lang, our knowledge of the gametophytes and embryo of the *Psilotaceæ* may be regarded as a complete blank. Shortly after his arrival in Australia in 1913 Prof. Lawson learned that both genera were to be found in great abundance in the vicinity of Sydney. After careful search several specimens of the prothallus of *Tmesipteris* and one specimen of what is believed to be the prothallus of *Psilotum* were discovered. The present paper contained an account of the general features of these prothalli, including descriptions of the antheridia and the archegonia. Observations on the embryo were also made, but a full account is reserved for a later paper, when more material will have been obtained. As regards the structure of the archegonium, which bears no very striking resemblance to either *Equisetum* or *Lycopodium*, one is inclined to regard it as reduced. This is not surprising in a plant the sporophyte and gametophyte of which are both reduced and highly specialised in their adaptation to definite habitats.—Prof. E. T. Whittaker: On the theory of continued fractions. The paper gave a general process for expressing a continued fraction as a continuant, and showed how to express the differential coefficient of a continued fraction as the ratio of two determinants the constituents of which are definite functions of the terms of the continued fraction.

June 10.—Sir T. R. Fraser, vice-president, in the chair.—Prof. C. R. Marshall: The pharmacological action of nitric esters. The paper dealt mainly with the relation between the chemical constitution and pharmacological action of these esters. All that were investigated, except those of organic acids and their alkyl esters, caused dilatation of the blood-vessels. The quantitative effect of the fully nitrated esters of

the polyhydric alcohols and the sugars was chiefly dependent on their solubility in aqueous media; that of nitric esters of monohydric alcohols was much less dependent on this property. The influence of different groupings was described, and the theory that the pharmacological action of nitric esters is wholly due to their reduction to nitrites was combated. Evidence of the formation of nitric oxide hæmoglobin was not obtained.—C. W. Tyrrell: On the petrography of the trachytic and allied rocks of the Carboniferous age in the Clyde lava plateaux. These rocks were shown to fall into four groups, viz.: (a) Albite Bostonites, A. Trachytes, and A. Keratophyres; (b) Bostonites, Trachytes, and Keratophyres; (c) Quartz Keratophyres and Felsites; (d) Phonolites.

NEW SOUTH WALES.

Linnean Society, April 26.—Mr. C. Hedley, vice president, in the chair.—G. I. Playfair: *Oocystis* and *Eremosphæra* (Algæ). The object of this paper is threefold:—(1) To give an account of all forms of *Oocystis* and *Eremosphæra* met with in New South Wales; (2) to direct attention to the polymorphism of *Eremosphæra*, and to its connection with *Oocystis*; (3) to supply the original descriptions and figures, so far as possible, of all published species and forms of the two genera.—Dr. J. M. Petrie: The chemical investigation of some poisonous plants in the N.O. Solanaceæ. Part ii.—*Nicotiana suaveolens*, and the identification of its alkaloid. *N. suaveolens* is the "native tobacco" of Australia, and the only endemic species. It is a troublesome weed in the stock country, sometimes referred to as poisonous, at other times as a good fodder-plant, readily eaten by stock. As only a very few among the eighty described species of *Nicotiana* are known to contain nicotine, the author examined plants from three different localities in the interior of New South Wales, and in all identified and proved the presence of nicotine. The amounts found were 0.035, 0.003, 0.004 per cent. of the fresh plants, or 0.124, 0.011, 0.015 per cent. of dried (at 100°) plants. It was calculated from the lowest figure stated that enough alkaloid is contained in half a pound of green plant to poison an ordinary-sized sheep.—A. A. Hamilton: The instability of leaf-morphology in relation to taxonomic botany. The principal factors affecting leaf-morphology are tabulated, and a summary of the more important alterations resultant from their agency are given. A series of examples (chiefly Australian) is submitted, illustrating the effect of environment on leaf-structure; and evidence is offered, in certain cases, demonstrating the development of heterogeny in the foliage of closely allied plants, using dissimilar contrivances as protective agencies against adverse conditions; and homoplasmy in plants distantly related, but employing a common protective device.—J. H. Maiden: *Brachychiton populneo-acerifolius*, F. v. M., the crimson-flowered Kurrajong. The name was applied by the late Baron von Mueller to a tree, recognised as a hybrid between *B. acerifolius* and *B. populneus*, growing in a garden at Mulgoa. Plants of the parent species were then growing in the garden, but it was not certain that the hybrid had not been introduced as a seedling from elsewhere. Inquiries for similar plants have been widely circulated, and records are now given of examples growing in different localities; but, except in one instance, they are all cultivated plants, the history of which is unknown.—J. H. Maiden: A *Eucalypt* hybrid (*Eucalyptus calophylla* × *E. ficifolia*). *E. calophylla* has white or creamy filaments, and *E. ficifolia* bright scarlet. Plants of a

more or less intermediate character, with rose to crimson filaments, are now in cultivation; and these are regarded as hybrids.

QUEENSLAND.

Royal Society of Queensland, May 1.—H. A. Longman: The supposed Queensland artiodactyle fossils. In 1886 a series of teeth from post-Pliocene deposits on the Darling Downs, Queensland, was described by the late C. W. De Vis as artiodactyle, under the name of *Prochoerus celer* (Proc. Roy. Soc. Queensland, vol. iii., p. 42). Although the author suggested that the teeth denoted an alliance with the peccaries rather than with the true pigs, his statements were interpreted as evidence of the occurrence in southern Queensland of the Papuan *Sus*. The Darling Downs deposits have yielded such a harvest of marsupial remains (including Diprotodon, Nototherium, Thylacoleo, and extinct kangaroos and wombats) that this supposed exception aroused considerable interest. The results of an examination of the type specimens by Mr. Longman show that the tooth recorded as a lower incisor is identical with the left lower laniary incisor of *Thylacoleo carnifex*; that the upper incisors and paratypes closely correspond with the posterior incisors of Nototheroid marsupials; that the imperfect molar tooth has no affinity with the Papuan pig, and does not present sufficient evidence to warrant its designation as non-marsupial. This molar is of a somewhat similar type to the remarkable large premolar of Macleay's "*Zygomaturus trilobus*," the status of which is in doubt, and which was included by Owen in *Nototherium mitchelli*. The evidence for the presence of fossil artiodactyles in Queensland thus disappears, and a much-discussed question has been settled.

CALCUTTA.

Asiatic Society of Bengal, June 7.—Dr. N. Annandale: Zoological results of a tour in the Far East. The tour was undertaken chiefly in order to investigate the lake-fauna of certain districts in Japan, China, and the Malay Peninsula. Three large lakes were visited, namely, Biwa-Ko in the main island of Japan, the Tai Hu or Great Lake in the Kiangsu province of China, and the Talé Sap or Inland Sea of Singgora in the north-east of the Malay Peninsula. The first two of these are inland lakes, whereas the Talé Sap is a lagoon connected with the Gulf of Siam. Full geographical details are reserved for a series of faunistic papers. Twenty-eight species of fresh-water Lamellibranch shells are discussed, belonging to the families Mytilidæ, Arcidæ, Unionidæ, and Cyrenidæ. The species of polyzoa of fresh and brackish water discussed are mostly from China and the Malay Peninsula. Four new Spongillidæ (three species representing Spongilla and one Trochospongilla) were found in the Tai Hu, and three, two of which were already known, in the Talé Sap.

BOOKS RECEIVED.

Indian Forest Records. Vol. v., part 7. (Calcutta: Superintendent, Government Printing.) 2s. 3d.
Indian Forest Memoirs. Sylviculture Series. Vol. i., part i. Pp. iv+126. (Calcutta: Superintendent, Government Printing.)

English Landscape: An Anthology, compiled by M. Baring. Pp. 122. (London: Oxford University Press.) 1s. net

Mémoires de la Société de Physique et d'Histoire Naturelle de Genève. Vol. xxxviii. Fasc. 4 and 5. (Genève: Georg et Cie.) 5 and 7 francs respectively.

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A Scientific German Reader. By H. Z. Kip. Pp. xii+445. (London: Oxford University Press.) 5s. net.

Compendio de Algebra de Abenbéder. By J. A. S. Perez. Pp. xlvii+117. (Madrid: E. Maestre.)

Hitting the Dark Trail: Starshine through Thirty Years of Night. By C. Hawkes. Pp. 191. (London: G. G. Harrap and Co.) 3s. 6d. net.

The Mentally Defective Child. By Dr. M. Young. Pp. xi+140. (London: H. K. Lewis and Co., Ltd.) 3s. 6d. net.

Studies in Blood Pressure, Physiological and Clinical. By Dr. G. Oliver. Third edition. Edited by Dr. W. D. Halliburton. Pp. xxiii+240. (London: H. K. Lewis and Co., Ltd.) 7s. 6d. net.

Department of Mines. Memoirs of the Geological Survey of New South Wales. Geology, No. 7: Geology and Mineral Resources of the Southern Coalfield, with Maps and Sections. Part 1—The South Coastal Portion. By L. F. Harper. Pp. xiii+410+plates xlv. (Sydney: W. A. Gullick.) 15s.

A Critical Revision of the Genus Eucalyptus. By J. H. Maiden. Vol. iii. Parts v. and vi. (Parts xxv. and xxvi. of the complete work.) (Sydney: W. A. Gullick.) 2s. 6d. each.

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