

London Day Training College, Southampton Row, W.C.1, and at King's College, Strand, W.C.2. At 11.30 a.m. on the first day Mr. Henry Wilson will lecture on the crafts of Britain, past and future, and at 3 p.m. Mr. W. E. Whitehouse will read a paper on map study in geography and military education. A discussion on geography in advanced courses will be held on January 7 at 10.30 a.m.; and at 5 p.m. on the same day Sir W. M. Ramsay will deliver his presidential address on "The Great Goddess, Mother Earth," at King's College.

THE annual meeting of the Mathematical Association will be held at the London Day Training College, Southampton Row, London, on January 9, at 5.30, and January 10, at 2.30. On the first day, Dr. W. P. Milne will deal with the graphical treatment of power series. On the second day the following subjects will be considered:—Dr. W. P. Milne, the uses and functions of a school mathematical library; Dr. S. Brodetzky, nomography; and Mr. G. Goodwill, some suggestions for a presentation of mathematics in closer touch with reality. Prof. T. P. Nunn will give his presidential address at 2.30, on mathematics and individuality, and this will be followed by a discussion on the position of mathematics in the new scheme of the Board of Education for secondary schools.

THE Education Bill introduced by Mr. Fisher in the House of Commons last August has been withdrawn, but a revised Bill, in which certain amendments have been included, is to be brought forward at an early date during the present session of Parliament. "The new Bill," Mr. Bonar Law, Chancellor of the Exchequer, announced on December 13, "will be taken at the earliest possible moment next session, and I have every reason to hope that it may be possible to pass it into law without delay." The educational clauses of the Bill that has now been allowed to lapse have received the approval of most of the associations concerned with the professional work of education in England, as well as of other representative bodies, and the country looks to the Government to begin national reconstruction on the lines laid down by them. The Bill was, however, heavily weighted with certain administrative proposals dealing with the relations between the Board of Education and local education authorities, and it is these which have met with opposition. Mr. Fisher has introduced substantial changes in the new Bill to meet the objections raised to the administrative clauses of the old one. This encourages us to believe that we are within sight of the day when a long-deferred and much-needed measure of reform of our educational system will find a place in the Statute-book. The importance of making provision for the future by strengthening and extending our educational foundations is acknowledged on all sides, and we are glad to be assured by Mr. Bonar Law that the Government intends to facilitate the progress of this measure of reform through the House of Commons.

THE Education (Scotland) Bill was introduced in the House of Commons on December 17, and was read a first time. The main object of the measure is to effect a further improvement in the provision of education for all classes of the population and to make that provision available to residents in remote and isolated districts. It is proposed to raise the age for full-time school attendance from fourteen to fifteen, and to make attendance at continuation classes obligatory upon pupils between the ages of fifteen and eighteen who were not in full-time attendance in school; to restrict employment both before and after school hours of children attending school, and to regulate still further the employment of children or young persons under the age of fifteen in factories and in mines. The local

authorities are empowered to provide books not only for children and young persons who are attending school, but also for adult readers, and provision is further made to ensure that so far as is practicable no child or young person who has promise or ability shall be debarred by reason of difficulty of access or want of means from full opportunity for the development of his faculties by attendance at secondary schools or universities. As there is a large volume of opinion in Scotland which favours the setting up of a body representative of universities, local authorities, teachers, and other classes of persons specially interested in education, as a forum for the discussion of educational questions, provision is made for the constitution of an advisory council, designed to assist the Minister of Education and the Education Department in framing educational proposals.

SOCIETIES AND ACADEMIES.

LONDON.

Linnean Society, November 29.—Sir David Prain, president, in the chair.—Dr. H. Wager: (1) Intensity and direction of light as factors in phototropism. In this communication an account is given of experiments made to determine the influence of the intensity and the direction of light in effecting phototropic responses in foliage leaves. The distribution of the physico-chemical activities in the photo-sensitive tissues is dependent upon both intensity and direction of light, and since the direction of movement may be determined as the resultant of the varying physico-chemical activities in the whole of the sensitive region, it must be concluded that both intensity and direction of light are necessary factors in the phototropic response. (2) Spore-coloration in the Agaricaceæ. The use of spore-coloration as a basis for the classification of the Agaricaceæ is artificial and imperfect. There is no clear line of demarcation between the various colours, and the designation of the colours in the text-books is very indefinite and unsatisfactory. A beginning has, however, been made by members of the Mycological Committee of the Yorkshire Naturalists' Union to obtain more accurate records of spore-coloration in terms of a standard series of tints. It has been found—and this may be a fact of some considerable physiological interest—that, with one or two doubtful exceptions, all the spore colours so far standardised, whether pink, rusty, or purple, fall within the region of the less refrangible half of the spectrum. Spectroscopic examination also shows this. It has been suggested by Buller that these colouring matters may serve a useful purpose by screening off certain of the sun's rays from the living protoplasm. Spore-coloration may, however, depend, partly at least, upon the kind of substratum on which the fungi grow.

MANCHESTER.

Literary and Philosophical Society, November 27.—Mr. W. Thomson, president, in the chair.—Prof. W. Boyd Dawkins: Examples of pre-Roman bronze-plated iron from the Pilgrim's Way. The examples were an iron snaffle-bit, an iron harness-ring, and an iron hub of a wheel, covered with a thin layer of bronze, discovered in 1895, on the site of a village in Bigbury Wood, about two miles due west of Canterbury. The village is of prehistoric Iron age, and is traversed by the Pilgrim's Way, and has yielded a considerable number of implements to be seen in the Manchester Museum. Of these the three above mentioned are of peculiar interest, because they show that the art of plating iron with bronze was known at that remote period, ranging indefinitely backward from the Roman conquest. The

implements found along with the plated articles consist of iron spears, axes, adzes, hammers, ploughshares, billhooks, and sickles, of the types found in settlements elsewhere of the same age, such as Hunsbury, near Northampton, and the Lake Village at Glastonbury. In addition to these there were also fetters and a chain for a chain-gang of six, with six rings to put round the neck. Similar bronze-plated iron articles have been met with elsewhere.—R. L. Taylor: The effect of light on solutions of bleaching powder. Experiments were described in which solutions of bleaching powder, differing in concentration and prepared in different ways, were exposed to diffused daylight and to intermittent bright sunlight, while other similar solutions were kept in the dark. Some of the experiments extended over fifteen months. It was found that solutions exposed to sunlight decomposed quite rapidly, those exposed to diffused daylight much more slowly, while dilute solutions (1 per cent.) kept in the dark remained quite unaltered for the whole period of fifteen months. A solution five times the strength of the latter, however, did undergo some decomposition, losing about 20 per cent. of its available chlorine, even when kept in the dark.

DUBLIN.

Royal Dublin Society, November 27.—Prof. Hugh Ryan in the chair.—Dr. F. E. Hackett and R. J. Feeley: The polarisation of a Leclanché cell. The recovery of a Leclanché cell from polarisation can be analysed into two parts, a rapid recovery and a slow creep towards the initials E.M.F. The period of rapid recovery can be represented closely by an equation similar to the equation for the decay of ionisation in a gas. The recovery of a Weston cadmium cell from short circuit for a brief interval seems also to obey the same law. The disappearance of polarisation is therefore mainly a bimolecular reaction.—Miss E. J. Leonard: The genus *Tænitis*, with some notes on the remaining *Tænitidinae*. The paper is an endeavour to place *Tænitis* in its true phyletic position, and to find out what relationship, if any, it bears to the other genera classed with it, under the heading *Tænitidinae*. *Tænitis* bears a strong external resemblance to *Blechnum*, and this resemblance is further supported by many points in its anatomy, such as glandular dermal appendages, the venation of the leaf, and the presence of a commissural vein underlying the sorus. *Tænitis* is therefore classed as a derivative form in the *Blechnoid* series. Of the remaining genera, the only one which shows definite relationship to *Tænitis* is *Eschatogramme*. The others examined—*Drvmoglossum*, *Paltanium*, *Hymenolepis*—are widely divergent, probably in accordance with their epiphytic habit.

BOOKS RECEIVED.

A Supplementary Memoir on British Resources of Sands and Rocks used in Glass Manufacture, with Notes on certain Refractory Materials. By Prof. G. H. Boswell and others. Pp. 92. (London: Longmans and Co.) 3s. net.

Telegraph Practice. By J. Lee. Pp. ix + 102. (London: Longmans and Co.) 2s. 6d. net.

Studies in the History and Method of Science. Edited by C. Singer. Pp. xiv + 304. (Oxford: At the Clarendon Press.) 21s. net.

Meteorological Office. British and Magnetic Year Book, 1915. Part iii., Section 2. (London: Meteorological Office.) 10s. net.

National Physical Laboratory. Notes on Screw Gauges. By the Staff of the Gauge-Testing Depart-

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ment. Enlarged issue ii. November. (Teddington: W. F. Parrott.) 2s. 6d.

Cape Peninsula List of Serials. Being a Catalogue of the Publications available for Consultation in the Libraries of the British Medical Association, etc. Second edition. Pp. 65 + iv. (Cape Town: South African Public Library.)

DIARY OF SOCIETIES.

THURSDAY, DECEMBER 20.

INSTITUTION OF MINING AND METALLURGY, at 5.30.—A Neglected Chemical Reaction and an Available Source of Potash: E. A. Ashcroft. —Syphoning Gravel: J. Jervis Garrard.

CHEMICAL SOCIETY, at 8.—Vacuum Balance Cases: B. Blount.—Spark-lengths in Hydrocarbon Gases and Vapours: R. Wright.—Studies of Drying Oils: I. The Properties of some Cerium Salts obtained from Drying Oils: R. S. Morrell.—The Relation of Position Isomerism to Optical Activity. XI. The Menthyl Alkyl Esters of Terephthalic Acid and its Nitro-derivatives: J. B. Cohen and H. S. de Pennington.—Pyranolehydrindene. III.: A. K. Das and B. N. Ghosh.—Synthesis of Pyranole-derivatives: S. C. Chatterji and B. N. Ghosh.—Synthesis of 3:4-Dihydroxyphenanthrene (Morphol) and of 3:4-Phenanthraquinone: G. Barger.

THURSDAY, DECEMBER 27.

ROYAL INSTITUTION, at 3.—Magnets and the Magnetic Compass: Prof. J. A. Fleming.

SATURDAY, DECEMBER 29.

ROYAL INSTITUTION, at 3.—Electricity and Electric Currents: Prof. J. A. Fleming.

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