

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

OXFORD.—At a meeting of the Ashmolean Society, held on Monday last, Mr. V. H. Veley read a most interesting paper, entitled "A Criticism of the Electrolytic Theory of Chemical Change," which excited a warm discussion. At the same meeting Mr. J. E. Marsh read a paper on "Some New Derivatives of Camphene," which embodied some of the results of recent investigations made by him and Mr. J. A. Gardner.

At a meeting of the Junior Scientific Club on Wednesday, 7th inst., Mr. H. Balfour exhibited primitive tobacco pipes and vessels of skin and sinew from India and South Africa. Papers were read on "Hertz's Researches on Electromagnetic Radiation" by Mr. E. F. Morris, of Balliol, and on "The Distribution of Extra-marine Mollusca," by Mr. E. W. W. Bowell, of Wadham.

In the list of newly-elected members of the Board of the Faculty of Natural Science given last week, the name of Mr. W. Esson was inadvertently given instead of that of Mr. H. T. Gerrans.

As a result of the memorial presented by the Demonstrators to the Hebdomadal Council last year, the following statute has been passed by Council, and will be promulgated in Convocation on March 20. If all that the Demonstrators demanded has not been conceded, the new statute has at least the merit of recognising their position and given them a definite university status.

"Whereas it is expedient to make regulations respecting (1) the appointment of Demonstrators and other Assistants in certain laboratories, and (2) their tenure of office, the University enacts as follows:—

After Statt. Tit. iv. Sect. 1, § 3 (page 32, ed. 1893) the following subsection shall be added:—

§ 4. Concerning Demonstrators and other Assistants in laboratories.

1. Every Demonstrator or other Assistant appointed by any of the Professors enumerated in the Schedule annexed to this Statute shall receive at the time of his appointment a written statement of the emolument and duration of his office.

2. In all cases in which a Demonstrator or other Assistant is so appointed for a longer period than two terms, Easter and Trinity terms being for this purpose computed as one term, the name of the person appointed and the terms of the appointment shall be submitted for approval to the Vice-Chancellor, who, if he gives his approval, shall notify the appointment in Convocation, and cause it to be published in the usual manner.

3. Any Demonstrator or other Assistant who has been dismissed from office by the Professor shall have the right of appealing against the dismissal to the Vice-Chancellor.

Schedule.

The Savilian Professor of Astronomy.
The Professor of Experimental Philosophy.
The Waynflete Professor of Chemistry.
The Professor of Geology.
The Linacre Professor of Comparative Anatomy.
The Waynflete Professor of Physiology.
The Sherardian Professor of Botany."

CAMBRIDGE.—Mr. T. H. Riches has been appointed to the occupation of the University's table at the Naples Zoological Station for the next five months.

The General Board of Studies recommend that Dr. Ruhemann's Lectureship in Organic Chemistry should be continued for five years from Michaelmas next. Dr. Ruhemann's teaching appears to have been very popular; during last term he had 123 students under instruction. His work, though it is under University auspices, is conducted for the present in the laboratory of Gonville and Caius College.

The Agricultural Examinations Syndicate have issued, through their Secretary, Mr. Francis Darwin, Deputy-professor of Botany, a scheme of the Examination in Agriculture to be held next summer. The examination will extend from July 2 to July 8, and will include papers and practical work in Chemistry, Botany, Physiology, Entomology, Geology, Engineering, and Book-keeping (constituting Part I.), and Practical Agriculture and Surveying (constituting Part II.). The fee for admission will be one guinea for Part I., and two guineas for Part II. The names of candidates are to be sent to the Registry by

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June 13, 1894. Schedules of the subjects over which the examination will extend are published in the *University Reporter* for February 13. Candidates who pass both parts will receive a diploma testifying to their competent knowledge of the science and practice of agriculture.

SCIENTIFIC SERIALS.

Wiedemann's Annalen der Physik und Chemie, No. 1.—Radiation of gases, by F. Paschen. The experiments were conducted upon gaseous carbonic acid and steam. By using mirrors instead of lenses, and a prism of fluor spar, purer spectra and more decided maxima were obtained than those found by Angström. The absorption spectra of CO₂ at ordinary temperatures, and of steam at 100°, correspond in general to the emission spectra at higher temperatures, except that at higher temperatures the maxima are displaced towards the less refrangible end. This displacement was found, however, to be reversed for at least one of the steam maxima. The principal maximum of CO₂ was at λ 4630. The other, at 2710, nearly coincided with that of steam, at 2660. The other maxima due to steam were found at 8060 and 7160. All these maxima were very decided. A layer of CO₂ 7 c.m. thick showed almost complete absorption at the darkest bands. These bands did not, as sometimes supposed, broaden with increasing thicknesses of layers. A layer of air 83 c.m. thick showed them clearly. One principal band due to steam was found represented in the absorption spectrum of water, but those of water were as a rule displaced towards the red end. No absorption by oxygen and nitrogen could be discovered under similar conditions.—On the artificial colouring of crystals and amorphous bodies, by O. Lehmann. The recently discovered phenomenon of "liquid crystals," *i.e.* dissolved crystals retaining their doubly-refracting properties in the state of solution, has confirmed the author's belief that the properties of crystals depend more upon those of their molecules than upon the aggregation of the latter. Hence it is probable that substances which are not isomorphous may, after all, be capable of crystallising together. This has been actually observed in the case of sal-ammoniac and copper chloride, and subsequently in a large number of substances, such as meconic, hippuric, and succinic acids when brought into contact with bodies like Hofmann's violet, phenyl blue, or methyl orange.—On galvanic deposits arranged in streaks, by U. Behn. The streaky deposit found in silver voltameters and similar apparatus owes its arrangement to currents within the liquid due to variations of density during electrolysis, as was proved by varying the position of the voltameter. In the case of silver nitrate, the streaks are most highly developed when the solution is dense and the current feeble. The amount of E.M.F. is without influence.—The polarisation of solid deposits between electrolytes, by P. Springmann. The counter E.M.F. generated by a current flowing through two electrolytes was determined, in cases where the two liquids gave a solid deposit upon the membrane (parchment or gypsum) separating them. With a current of 214 milliampères, solutions of lead nitrate and copper sulphate gave a polarisation of 1.964 volts after five, and 2.02 volts after ten minutes.

Bulletin de l'Académie Royale de Belgique, No. 12.—Essay on the variations of latitude, by F. Folie. This is an attempt to explain the observed variations of latitude by a superposition of initial nutation and an annual displacement of the earth's pole of inertia due to inequalities in the distribution of snow in the various north circumpolar regions. Supposing that the snow falling in America between the meridians of 235° and 285° E. of Gr. is counterbalanced by that falling in Europe and Siberia from 55° to 105°, the chief unbalanced tracts would be those between 105° and 135° in Siberia, and 15° and 55° in Europe. These masses would have their centres of gravity at about 120° and 35° respectively, giving a resultant centre of gravity at 77°. Assuming that the thickness of snow accumulated from autumn till midwinter is equivalent to 0.3 m. of water, and that the solid crust extends down to the extent of one-tenth of the earth's radius, a rough calculation gives 0.06" as the angle by which the pole of inertia would be displaced towards North America during the period considered, afterwards returning by the same amount between midwinter and midsummer. The combination of this annual period with that of initial nutation, of 427 days, would give an apparent period of 396 days, agreeing closely with that of 398 days found by Chandler.—