

### UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

OXFORD.—Prof. W. J. Sollas, F.R.S., Professor of Geology in the University of Dublin, and late Fellow of St. John's College, Cambridge, has been elected to succeed the late Prof. Green as Professor of Geology.

In a Convocation to be held on Tuesday, May 11, the decree will be proposed that the gift of a very large and valuable collection of butterflies, offered by Mr. F. du Cane Godman, F.R.S., and Mr. Osbert Salvin, F.R.S., to the Hope Department, be accepted by the University. Prof. E. B. Poulton, the Hope Professor, states that the specimens in this collection are of especial value because of the excellent geographical data which accompany them. Although specimens from all countries are included, the collection is especially rich in species from Central America, a district of peculiar interest, hitherto but poorly represented in the Hope Collection. Many specimens of historic interest are also present—the captures of Bates in Brazil, of Belt in Nicaragua, and of Wallace in the Malay Archipelago. The majority of the more recently captured specimens were taken by the greatest living collectors, such as G. C. Champion and H. H. Smith (Central America), and C. M. Woodford (Solomon Islands); so that all localities can be entirely depended upon. No conditions are attached to the gift, so that the specimens can be at once incorporated with those of the General Collection, as soon as they have been adequately labelled. The collection also contains a large amount of material which will be available to illustrate the principles of protective mimicry, geographical distribution, isolation, &c.

AN anonymous donor has given 25,000 dols. to the Brooklyn Polytechnic Institute.

DR. WALLIS BUDGE has received the *ad eundem* degree of D.Litt. from the University of Durham.

THE chair of Natural Philosophy in Queen's College, Belfast, vacant by the retirement of Prof. Everett, has been filled by the appointment of Mr. W. B. Morton, of Queen's College, Belfast, and St. John's College, Cambridge.

THE Congrès International de l'Enseignement Technique has accepted an invitation from the Society of Arts, and certain of the City Guilds, to hold its meeting this year in London. The Congress will be opened on June 15.

PROF. C. CLAUS, Professor of Zoology at the Vienna University, has resigned; Dr. B. Hatschek, of Prague, has been made his successor in Vienna; and Prof. R. van Leudenfeld has been appointed to fill the chair of Zoology in the latter's place at Prague.

THE University of St. Andrews has conferred the honorary degree of LL.D. upon Mr. J. Scott Keltie, Secretary to the Geographical Society; Prof. H. S. Hele-Shaw, Professor of Engineering in University College, Liverpool; and the Rev. Alfred Merle Norman, F.R.S.; Hon. Canon of Durham.

A MEETING will be held at Hugh Myddelton Board School, Clerkenwell, on Saturday next, April 3, at 3.30, to consider improvements in the methods of teaching domestic economy as commonly practised in schools. It will be proposed that in future the teaching should be of an exact nature, and such as to make the scholars think-for themselves about the ordinary affairs of the household. For this end to be attained, simple but accurate experimental work dealing with domestic matters should be introduced into girls' schools. The Education Department have given their recognition to this view by introducing a new subject—domestic science—into the Code of Elementary Schools.

### SCIENTIFIC SERIALS.

*Bulletin of the American Mathematical Society*, February.—Prof. A. W. Phillips contributes an obituary sketch of Prof. H. A. Newton, who died August 12, 1896. After pointing out, in some detail, his various lines of work, he closes thus:—"The achievements of Prof. Newton, great as they were from a scientific standpoint, give no adequate idea, taken in themselves,

of his power and influence. He built up, during a leadership of forty years, a strong and symmetrical department of mathematics, by his comprehensive grasp of the trend of mathematical thought, and by his wonderful power of divining the paths which lead out to fruitful fields of research, both within the domain of pure mathematics and in its applications to other sciences. Nor was the first part of his academic activities merely in his own department of studies. In moulding the general policy of the institution, his counsel was invaluable; in establishing and maintaining the moral and intellectual standards, his influence was pre-eminent; the University bears the indelible impress of a life consecrated to the development of the noblest ideals."—Transcendental numbers is the translation, by Prof. W. W. Beman, of chapter xxv. of vol. ii. of Prof. H. Weber's *Lehrbuch der Algebra*. This is a fairly elementary presentation of the recent methods of demonstrating the transcendency of  $e$  and  $\pi$ . The sections treat of enumerable masses (a mass is said to be enumerable when its elements can be brought into a (1, 1) correspondence with the whole series of natural numbers, or a portion of the same), unenumerable masses, transcendency of  $e$  and of  $\pi$ , and Lindemann's general theorem regarding the exponential function.—Shorter notices are a review of Dr. Schwart's geometrical treatment of curves which are isogonal conjugates to a straight line with respect to a triangle. Part I. (Boston, 1895), by Prof. F. Morley, of the *annuaire pour l'An 1897*, publié par le Bureau des Longitudes, by Prof. E. W. Brown.—Members of the Society resident in, or near, Chicago, held a mathematical conference at the University of Chicago on December 31, 1896, and January 1, 1897, and in future it is proposed to hold at least two similar meetings in the year, viz. during the Christmas vacation, and in the spring.—The titles of the papers read are given, with notes and new publications.

*Wiedemann's Annalen der Physik und Chemie*, No. 3.—Behaviour of quartz towards infra-red rays, by E. F. Nichols. This was investigated not by a bolometer or a thermo-element, but by a modified form of Crookes' radiometer, in which one of the vanes was screened and the other exposed to the rays reflected or transmitted by quartz. The rays, which were concentrated by a rock-salt lens and admitted to the radiometer through a fluorspar window, produced a torsion of the suspending quartz fibre, which was indicated by a mirror attached to the vanes. The reflection by quartz of light of the wave-length  $7.4 \mu$  is only 0.29 per cent. But at  $8.45 \mu$  it rivals that of burnished silver, 75 per cent. The transmission curve is very irregular, and beyond  $8.1 \mu$  no light is transmitted.—Heat rays of great wave-length, by H. Rubens and E. F. Nichols. Instead of using a grating or selective absorption for obtaining infra-red rays, the authors filtered them out by three successive reflections from surfaces of fluorspar or rock-salt, the source being a layer of the same substance on hot platinum foil. Heat rays of hitherto unrecorded length were thus obtained. The fluorite reflections gave waves of  $24.5 \mu$ , or over 30 times the length of the extreme red light waves. They are, reckoning by octaves, midway between the shortest ultra-violet waves and the shortest electrical waves (6 mm.) hitherto observed. Reflections from rock-salt gave waves of  $50 \mu$ .—Thermometer for very low temperatures, by F. Kohlrausch. Such a thermometer may be procured by the use of petroleum ether as the thermometric substance. It is very viscous but still sufficiently liquid at the temperature of boiling liquid air ( $-190^\circ \text{C}$ .), and shows a contraction of volume by as much as 25 per cent. from the ordinary to the lowest temperature. Amylene also remains liquid, but is more viscous.—Visibility of Röntgen rays, by G. Brandes and E. Dorn. When the vacuum tube is highly exhausted, the rays produce a sensation of light in most eyes, which is, however, difficult to localise. Most of the humours of the eye absorb the rays.—Interference surfaces at the kathode, and the electrostatic deflection of the kathode rays, by E. Wiedemann and G. C. Schmidt. The deflections of kathode rays observed by Jaumann are a secondary effect due to a modification of the field by the charged body, which produces a shifting of the origin of the rays on the kathode.—Demonstration of the course of variable currents, by F. Braun. A method by which the inertia of the indicator may be got rid of consists in making the current traverse an electro-magnet which deflects the kathode rays in a vacuum tube. The spot of light on a fluorescent screen vibrates, and the form of the vibration curve is studied by a revolving mirror.—Also papers by Dorn, Völlmer, Goldstein, Drude, König, Loomis, Voigt, and Glan.