## UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

PROF. J. W. JUDD, C.B., F.R.S., has been appointed Dean of the Royal College of Science, in succession to the late Prof. Huxley.

THE following list of Royal scholarships, medals, and prizes awarded last month in connection with the Royal College of Science, London, has just been issued by the Department of Science and Art. Royal scholarships:—First year's Royal scholarships, Ernest Smith, George Marks Russell, Frank Fisher, Norton Baron; second year's Royal scholarships, Robert Sowter, Joe Crowther. Medals and prizes:—"Edward Forbes" medal and prize of books for Biology, William George Freeman; "Murchison" medal and prize of books for Geology, John Caspell; "Tyndall" prize of books for Physics, Part I., William Herbert White; "De la Beche" medal for Mining, Robert William Pringle; "Bessemer" medal and prize of books for Metallurgy, John Collet Moulden; "Frank Hatton" prize of books for Chemistry, William Longshaw. Prizes of books given by the Department of Science and Art:—Mechanics, Cecil Alwyne Selpram Baxter; Astronomical Physics, Ernest Edward Leslie Dixon, William Herbert White; Practical Chemistry, Henry William Hutchin; Mining, Robert William Pringle; Principles of Agriculture, William Williams.

THE University of Pennsylvania has issued an appeal (says *Science*) asking for an endowment fund of £1,000,000 to meet the immediate requirements of the University. Mr. Thomas McKean has given without restrictions a sum of £10,000 in addition to the £10,000 given a few months ago. A contribution of £2000 has also been received from Mr. Richard F. Loper. It is stated that this is the thirteenth contribution of a similar kind that has been received. We learn from the same source that the University of Cincinnati has received a gift of £9000 from Mr. Henry Hanna, to be used in the erection of a wing in the new University building.

## SOCIETIES AND ACADEMIES.

### DUBLIN.

**Royal Dublin Society**, April 24.—Prof. J. Mallet Purser in the chair. The following communications were read:—Dr. E. J. M'Weeney on a temporary variation in the quality of the Vartry water. [This is the water-supply of the city of Dublin.]—Dr. David Hepburn (of Edinburgh), on the papillary ridges on the hands and feet of monkeys and men. The material for this paper was supplied by the anthropological laboratory of Trinity College, Dublin, and the paper was communicated by Prof. D. J. Cunningham, F.R.S.—Mr. Walter E. Adeney, on the course and nature of fermentative changes in natural and polluted waters, and in artificial solutions, as indicated by the composition of the gases in solution.

May 22.—Mr. Thomas Preston in the chair.—The following communications were presented:—Prof Emerson Reynolds, F.R.S., note on the spectrum of argon.—Mr. W. E. Adeney, on the chemical examination of organic matters in river water.—Mr. Richard J. Moss, on the preparation of helium.—Mr. Moss also exhibited a simple form of apparatus for the distillation of mercury in vacuo; and Dr. W. Frazer showed some photographs of the natives of Formosa.

June 26.—Dr. J. Joly, F.R.S., in the chair.—The following papers were read:—Mr. Thomas Preston, on the rectilinear propagation of light.—Dr. J. Joly, on photography in natural colours.—Sir J. William Dawson, F.R.S., note on a paper on "Eozoonal structure of the ejected blocks of Monte Somma," by Dr. H. J. Johnston-Lavis and Dr. J. W. Gregory, and reply to the note by the last-named authors.—Dr. G. Johnstone Stoney, F.R.S., criticism of the kinetic theory of gases regarded as illustrating nature.—Dr. E. J. M'Weeney, further observations on the Vartry water.—Dr. M. Weeney exhibited cultivations of *Phoma Betæ*, a fungus that produces a disease of the mangold wurzel.

### PARIS.

**Academy of Sciences**, July 29.—M. Marey in the chair.—On the presence of water vapour in the atmosphere of the planet Mars, by M. J. Janssen. Mr. W. W. Campbell has recently asserted that the atmosphere of Mars does not contain water vapour, and has requested further details concerning the author's observations, from which the presence of water vapour had been supposed to be proved. These details are now supplied; the author particularly points out that his Etna observations were carried out under exceptionally favourable conditions, and that the definite and convincing evidence they afforded was confirmed by observations carried out at Palermo and at Marseilles.—On groups of substitutions of the same order and degree, by M. Levavasseur.—On algebraical surfaces admitting of a continuous group of internal birational transformations, by MM. G. Castelnuovo and F. Enriques.—On algebraical machines, by M. Léonardo Torres.—Vibrations of the tuning-fork in a magnetic field, by M. Maurain.—New photographs of lightning flashes, by M. N. Piltschikoff. Several types of lightning flash are defined, and the dimensions are given for certain flashes; for instance, a photograph taken during a storm at Odessa on June 13, shows a luminous band 0·75 mm. wide, caused by a flash at a greater distance than 10 kilometres; the actual width of the flash was therefore more than 62 metres. A new voltaic cell, by M. Morisot. The cell consists of a carbon pole immersed in 1:4 sulphuric acid saturated with potassium bichromate and a zinc pole within a porous cell containing concentrated caustic soda solution (sp. gr. 1·25), this cell being separated from the depolarising acid solution by a second larger porous cell containing dilute caustic soda (sp. gr. 1·05). The E.M.F. of this cell is to begin with 2·5 volts, and remains above 2·4 volts during at least ten hours of uninterrupted action, and with variable external resistance remains constant. The intermediate bath of dilute alkali diminishes the action across the porous diaphragm between the soda and the sulphuric and chromic acids without materially increasing the resistance. The zinc is less attacked than with an acid bath, and may readily be brought into good condition after long use by a short immersion in acid.—Action of aniline on mercurous iodide, by M. Maurice François. The aniline decomposes the mercurous iodide with the formation of the substance diphenylmercurodiammonium iodide $(C_6H_5NH_2)_2HgI_2$, and metallic mercury. The reaction is incomplete and exactly similar to the action of water on bismuth sulphate or mercuric sulphate. The boiling saturated aniline solution dissolves mercurous iodide and redeposits it on cooling in the crystalline form.—Action of nitric peroxide on campholenic acid, by MM. A. Behal and Blaise.—On the products of the condensation of isovaleric aldehyde, by M. L. Kohn.—On the estimation of boric acid, by MM. H. Jay and Dupasquier. The boric acid is distilled over into soda by the aid of methyl alcohol used continuously and the residual soda determined by titration.—On the elimination of lime among those affected with rickets, by M. Oechsner de Coninck.—On the utility of injections of oxysparteïne before anæsthesia by means of chloroform, by MM. P. Langlois and G. Maurange. The injection, an hour before the operation, of 4 to 5 cgr. of sparteïne or 3 to 4 cgr. of oxysparteïne, together with 1 cgr. of morphine, gave rapid narcosis easily maintained with little chloroform and a regular pulse, energetic even when the respiration became superficial.—Influence of toxines on progeny, by M. A. Charrin. Bacterial poisons derived from the mother, like those introduced otherwise into the system, retard the growth of infants by rendering assimilation less perfect.—On the structure of the ectoderm and of the nervous system of parasitic Plathelminthes (Trématodes et Cestodes), by M. Léon Jammes.—Contributions to the embryogeny of simple Ascidians, by M. Antoine Pizon.—On the composition of the monazite sands of Carolina, by M. Boudouard.—Discovery of gigantic remains of fossil elephants, made by M. Le Blanc, in "la ballastière de Tilloux (Charente)," by M. Marcellin Boule.

### BERLIN.

**Physical Society**, June 14.—Prof. du Bois Reymond, President, in the chair.—Dr. F. Kurlbaum gave an account of his determination of the unit of light made in conjunction with Prof. Lummer. The unit was based on the light emitted by white-hot platinum foil. Since the radiant energy varies with the temperature, it was necessary to keep the latter constant for a prolonged period, and to be able to re-establish it at any time. This result was arrived at bolometrically by measuring the ratio of the total radiant energy from the glowing foil to the radiation taking place across an absorbing medium. This ratio is dependent upon the temperature of the radiating body, and provides a trustworthy measure of its temperature. It was necessary to find some covering for the bolometer which should absorb all rays as uniformly as possible; after many experiments a layer of