

DR. A. ROTHPLETZ has been appointed Extraordinary Professor of Geology and Palaeontology in the University of Munich; Dr. Ernst Lecher, Professor of Physics in Innsbruck University, has been nominated to succeed Prof. Machs at Prague; Dr. F. Marés has been made Ordinary Professor of Physiology in the Bohemian University at Prague; and Dr. J. E. Humphrey has been appointed Lecturer in Botany at the Johns Hopkins University, Baltimore.

THE Calendar of the University College, North Wales, for the year 1895-96, has been received. The physical, chemical, and biological laboratories (plans of which are given in the Calendar) now cover an extensive area. Under Prof. Andrew Gray, the physical department has greatly developed; and the appliances and electrical installation with which it is equipped enable the College to offer a complete course of instruction in all branches of electro-technical education.

### SOCIETIES AND ACADEMIES.

#### PARIS.

**Academy of Sciences, October 14.**—M. Janssen in the chair.—The decease of Baron Larrey, free member, was announced from the chair. He died on October 8. M. Émile Blanchard pointed out the great influence of the deceased in modern surgery.—The Prince of Monaco has sent to the Academy No. ix. of his publications concerning the scientific work done on his yacht: a contribution to the study of the Cephalopods of the North Atlantic, by M. Louis Joubin.—On a mechanical amplification of the horizontal component of the earth's rotation, by M. Jules Andrade.—On a hydraulic apparatus to show the movement of rotation of the earth, by M. Aug. Coret.—M. Aug. Fabre, in a memoir on "Integration of the equation to the derived partials of the first order, of a function  $x$  with  $n$  independent variables  $x_1, x_2, x_3, \dots, x_n$ " gives a quick new method of arriving at the general integral of an equation  $\mu(x, x_1, x_2, \dots, x_n, \rho_1, \rho_2, \dots, \rho_n) = 0$ .—M. J. Janssen, in the name of the Bureau des Longitudes, presented the 1898 volume of "Connaissance des Temps." There has been added to the tables concerning the satellites of planets, a table giving the elements for the calculation of the position of Mars' satellites at any given moment. In the ephemerides of the fundamental stars, the brightness of those above the first magnitude has been given, taking Aldebaran as unit.—The Perpetual Secretary announced to be printed in the Correspondence, "Theorie der endlichen Gruppen von eindeutigen Transformationen in der Ebene," by M. S. Kantor.—On a class of linear equations to the derived partials, by M. H. von Koch.—On the surfaces of which the lines of curvature form a network with equal tangential invariants, by M. A. Thybaut.—On the double elliptic refraction and the tetra-refringence of quartz near its axis, by M. G. Quesneville.—On the estimation of argon, by M. Th. Schloesing. An apparatus with circulating mercury pump is described, which allows of the absorption of nitrogen and measurement of the residual argon. The whole arrangement is a modified form of Ramsay's apparatus for isolating argon.—On the action of hydrochloric acid on copper, by M. R. Engel. Copper decomposes a saturated solution of hydrogen chloride at 15°C., with liberation of hydrogen. This interaction does not occur if the concentration be less than that shown by the formula  $\text{HCl} \cdot 10\text{H}_2\text{O}$ . The presence of cuprous chloride retards the reaction greatly.—Action of potash and potassium ethoxide on benzoquinone, by M. Ch. Aste.—On combinations of antipyrine with the diphenols, influence of the respective positions of the hydroxyl groups, by M. M. G. Patein and E. Dufau. Pyrocatechol, resorcinol, and quinol (hydroquinone) behave differently with regard to antipyrine; the ortho- and para-diphenols combine with two molecular proportions, the meta- with one. The combination occurs through one of the nitrogen atoms and the phenolic hydroxyl, which loses this property when its hydrogen is replaced by a metal or radical.—Experiments on the reducing power of pure yeasts, means of measuring it, by M. Nastukoff.

### BOOKS, PAMPHLETS, and SERIALS RECEIVED.

Books.—Elements of the Mathematical Theory of Electricity and Magnetism: Prof. J. J. Thomson (Cambridge University Press).—Elementary Physiology: Prof. J. R. A. Davis (Blackie).—A Directory of Science, Art and Technical Colleges, Schools and Teachers in the United Kingdom: R. S. Lineham (Chapman and Hall).—A Manual of Physiology: Dr. G. N. Stewart (Baillière).—Movement: E. J. Marey, translated by E. Pritchard (Heinemann).—Fossil Children of the Air: S. H. Scudder (Boston, Houghton).—Darwin and after Darwin: Dr. G. J. Romanes, ii. (Longmans).—

Among Rhode Island Wild Flowers: Prof. W. W. Bailey (Providence, R. I., Preston).—Pagan Ireland: W. G. Wood-Martin (Longmans).—First Steps in Egyptian: Dr. E. A. W. Budge (K. Paul).—Birdcraft: M. O. Wright (Macmillan).—Fishes, Living and Fossil: Dr. B. Dean (Macmillan).—Science and Art Drawing: J. H. Spanton (Macmillan).—Great Astronomers: Sir R. S. Ball (Isbister).—Elektrophysiologie: Prof. W. Biedermann, Zweite Abthg. (Jena, Fischer).—Protozoenphysiologie: A. Möller (Jena, Fischer).—The Tallerman-Sheffield Patent Localised Hot-Air Bath (Baillière).—University College of North Wales, Bangor, Calendar for the Year 1895-6 (Manchester, Cornish).—Atlas d'Ostéologie: Prof. C. Debierre (Paris, Alcan).—Evolution and Effort: E. Kelly (Macmillan).—A Handbook of British Lepidoptera: E. Meyrick (Macmillan).—Surface Currents of the Great Lakes: M. W. Harrington, revised edition (Washington).—Annuario p.p. Observatorio do Rio de Janeiro, 1895 (Rio de Janeiro).—U.S. Geological Survey Report, 1892-93, 2 parts (Washington).

PAMPHLETS.—Neue Versuche zum Saison-Dimorphismus der Schmetterlinge: Dr. A. Weismann (Jena, Fischer).—Neue Gedanken zur Vererbungfrage: Dr. A. Weismann (Jena, Fischer).—Cavendish Lecture on Dreamy Mental States: Sir J. Crichton-Browne (Baillière).—The People's Stonehenge: J. J. Cole (Sutton).—Iron and Steel Institute: Presidential Address: Sir D. Dale; Metal Mixers: A. Cooper; The Effect of Arsenic on Steel: J. E. Stead; The Mines of Elba: H. Scott; On the Manufacture of Steel Projectiles in Russia: S. Kern; Ternary Alloys of Iron with Chromium, Molybdenum, and Tungsten: J. S. de Benneville (Victoria Street).—The Siouan Tribes of the East: J. Mooney (Washington).—Archaeologic Investigations in James and Potomac Valleys: G. Fowke (Washington).—Chinook Texts: F. Boas (Washington).

SERIALS.—Proceedings and Transactions of the Queensland Branch of the Royal Geographical Society of Australasia, Vol. x. (Brisbane).—Quarterly Review, October (Murray).—Journal of Anatomy and Physiology, October (Griffin).—Contributions from the U.S. National Herbarium, Vol. 3, No. 3 (Washington).—Jahrbuch der k.k. Geologischen Reichsanstalt, xiv, Band, 1 Heft (Wien).—Società Reale di Napoli, atti della Reale Accademia delle Scienze Fisiche e Matematiche, serie second, Vol. vii. Napoli).—American Journal of Psychology, Vol. vii. No. 1 (Worcester, Mass.).—Ethnologisches Notizblatt, Heft 2 (Williams and Norgate).—English Illustrated Magazine, November (198 Strand).—Transactions of the Academy of Science of St. Louis, Vol. vi. No. 18, Vol. vii. Nos. 1, 2, 3 (St. Louis, Mo.).—Transactions of the Wagner Free Institute of Science of Philadelphia, Vol. 3, Part 3 (Philadelphia).—Proceedings of the American Philosophical Society, January, 1895 (Philadelphia).—Proceedings of the Academy of Natural Sciences of Philadelphia, 1895, Part 1 (Philadelphia).

### CONTENTS.

	PAGE
The Metallurgy of Iron. By W. Gowland . . . . .	613
The Life of Rennell. By Dr. Hugh Robert Mill . . . . .	614
Counter-Irritation. By F. W. T. . . . .	615
A New Departure in Geometry. By A. E. H. L. . . . .	616
Our Book Shelf:—	
Hutchinson: "Handbook of Grasses" . . . . .	617
Greenwell: "Rural Water Supply" . . . . .	617
Smith and Hart: "Climbing in the British Isles" . . . . .	617
Letters to the Editor:—	
The Feeding-Ground of the Herring.—Alexander Turbyne . . . . .	617
The Toronto Meeting of the British Association.—Dr. Wm. H. Hale . . . . .	618
The Theory of Magnetic Action upon Light.—A. B. Basset, F.R.S. . . . .	618
The Society of Chemical Industry and Abstracts.—Prof. James Hendrick . . . . .	618
Note on the Dendrocolaptine Species, <i>Dendrexetastes capitoides</i> of Eytton.—Dr. Henry O. Forbes . . . . .	619
The Pressure of a Saturated Vapour as an Explicit Function of the Temperature.—F. G. Donnan . . . . .	619
Colours of Mother-of-Pearl.—C. E. Benham . . . . .	619
A Rational Cure for Snake-bite. By A. A. K. . . . .	620
Scientific Knowledge of the Ancient Chinese . . . . .	622
The Flora of the Galapagos Islands. By W. Botting Hemsley, F.R.S. . . . .	623
The Late Professor Hoppe-Seyler. II. By Dr. Arthur Gamgee, F.R.S. . . . .	623
Notes . . . . .	625
Our Astronomical Column:—	
Sun-spot Observations in 1894 . . . . .	629
Planetary Perturbations . . . . .	629
The System of $\alpha$ Centauri . . . . .	629
Holmes' Comet . . . . .	629
On the Habits of the Kea, the Sheep-eating Parrot of New Zealand. By W. Garstang . . . . .	629
The Penetration of Roots into Living Tissues. By Rudolf Beer . . . . .	630
Dr. A. Schmidt's Theory of Earthquake-Motion. (Illustrated.) By C. Davison . . . . .	631
The Total Solar Eclipse of August 8, 1896. By Colonel Burton-Brown. (With Map.) . . . . .	633
University and Educational Intelligence . . . . .	635
Societies and Academies . . . . .	636
Books, Pamphlets, and Serials Received . . . . .	636