

d'Arsonval. This resonator creates a very intense alternating field, a Geissler tube being lit up at two metres distance. The discharge resembles in appearance that of a statically charged body, and causes lesions of the skin similar to those produced by the X-rays.—Visibility of the blind spot in the retina, by M. Aug. Charpentier. The experiments cited show that the spot where the optic nerve enters the retina, although insensible to light and blind in the proper sense of the word, is really represented in space by positive visual sensations occupying the same place, as if it were replaced in the eye by a real piece of retina in continuity with the rest of the membrane.—Quality of the fifteen vowels of the French language, by M. Monoyer.—Action of ammonium persulphate upon the silver in photographic negatives and the utilisation of this action, by MM. Lumière and M. Seyewetz. By means of a 5 per cent. solution of ammonium persulphate it is possible to reduce an over-exposed photograph in a manner not possible with the reagents previously suggested for this purpose, the persulphate acting first upon the most opaque portions of the negative, and leaving the half-shadows untouched.—On the causes of the imperfections in radiographs brought about by the use of reinforcing screens, by M. A. Londe. Comparative photographs were made with five screens, the platinumcyanide of barium and of potassium, sulphide of zinc, Becquerel's violet sulphide, and Kahlbaum's screen. Whilst some of these increased the rapidity of action of the X-rays, it was always at the expense of clearness of definition, the image being accompanied by a kind of halo. Hence these screens cannot be employed in delicate work.—On the constitution of the ternary alloys, by M. Georges Charpy. A microscopical study of the bismuth-lead-tin and copper-tin-antimony alloys.—On the yttrium earths contained in the monazite sands, by M. O. Boudouard.—On the carbonic acid of the atmosphere, by MM. Albert-Lévy and H. Henriet. The differences occasionally observed between the amounts of atmospheric carbon dioxide as determined by potash and baryta respectively, may possibly be due not to a different absorptive power for the gas with the two reagents, but to a slow oxidation of the organic matter present in the air which proceeds with different velocities in the two cases.—On a crystallised hepta-acetate of ouabaine, by M. Arnaud. Obtained by the action of acetic anhydride in presence of zinc chloride upon ouabaine.—On some acetals of pyrocatechol, by M. Ch. Moureu.—Nitration of cellulose and its hydroxy- and oxy-derivatives, by M. Léo Vignon.—A new mucin extracted from an ovarian cyst, by M. Charles Lepierre.—On the Holothuria collected by the *Travailleur* and *Talisman*, by M. Rémy Perrier.—On the embryogeny of *Serpula infundibulum* and *Hydroïdes pectinata*, by M. Albert Soulier.—Polymorphism in an Annelid (*Dodecaceria concharum*), by MM. Félix Mesnil and Maurice Caullery.—On the sexuality and relations of the Sphacelariaceæ, by M. C. Sauvageau.—On the palæozoic layers on the southern declivity of the Montagne-Noire, by M. J. Bergeron.—Characteristics of the bitumenous schist of the Bois-d'Asson (Basse-Alpes), by M. C. Eg. Bertrand.—On the transport of the sick, by M. Bonnafy. A discussion of the relative merits of State hospital-transports or ships chartered from the mercantile marine for this purpose.

DIARY OF SOCIETIES.

THURSDAY, JUNE 16.

ROYAL SOCIETY, at 4.30.—Observations on Stomata: Francis Darwin, F.R.S.—Note on the Attenuation and Exaltation of the Virulence of the Organism of Texas Fever: A. Edington.—Mathematical Contributions to the Theory of Evolution. V. On the Reconstruction of the Stature of Prehistoric Races: Prof. K. Pearson, F.R.S.—On some Expressions for the Radial and Axial Components of the Magnetic Force in the Interior of Solenoids of Circular Cross Section: C. Coleridge Farr.—On the Source of the Röntgen Rays in Focus Tubes: A. A. C. Swinton.—On the Constituents of Argon: Prof. W. Ramsay, F.R.S., and M. W. Travers.—And other Papers.

LINNEAN SOCIETY, at 8.—Observations on the Seasonal Variations of Elevation in a Branch of Horse-Chestnut Tree: Miller Christy.—On Pantopoda collected by Mr. W. S. Bruce in Franz-Josef Land: G. H. Carpenter.—Morphological Relationships of the Actiniaria and Madreporaria: J. E. Duerden.—On some Fossil Leporines: Dr. C. I. Forsyth Major.

CHEMICAL SOCIETY, at 8.—Ballot for the Election of Fellows.—Preparation of a Standard Acid Solution by Direct Absorption of Hydrogen Chloride: Dr. G. T. Moody.—Researches on the Terpenes. III. Halogen Derivatives of Fenchene and their Reactions. IV. On the Oxidation of Fenchene: J. A. Gardner and G. B. Cockburn.

SATURDAY, JUNE 18.

GEOLOGISTS' ASSOCIATION (London Bridge, L.B.S.C.), at 12.25.—Excursion to Crowborough. Directors: G. Abbott and R. S. Herries.

NO. 1494, VOL. 58]

MONDAY, JUNE 20.

ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—Tirah: the Geographical Results of the Recent Afridi Campaign: Colonel Sir T. Hungerford Holdich.

SOCIETY OF CHEMICAL INDUSTRY, at 8.—Aluminium as a Heating and Reducing Agent (in the Production of Chromium and other Metals): Dr. Hans Goldschmidt and Mr. Claude Vautin.

VICTORIA INSTITUTE, at 4.30.

TUESDAY, JUNE 21.

ZOOLOGICAL SOCIETY, at 8.30.—Remarks upon Series of Specimens of Lepidosiren and other Fishes obtained in Paraguay: J. Graham Kerr.—Report on the Collection of Fishes made by Mr. J. E. S. Moore in Lake Tanganyika during his Expedition 1895-96; with an Appendix by Mr. J. E. S. Moore.—On the Scorpions, Spiders, and *Solpuga* collected by Mr. C. Steuart Betton in East Africa between Mombasa and Uganda: R. I. Pocock.

ROYAL STATISTICAL SOCIETY, at 5.—Annual General Meeting.

ROYAL PHOTOGRAPHIC SOCIETY, at 8.—Photographic Images: Captain W. de W. Abney.

WEDNESDAY, JUNE 22.

GEOLOGICAL SOCIETY, at 8.—Post-Glacial Beds exposed in the Cutting of the New Bruges Canal; T. Mellard Reade.—High-level Marine Drift at Colwyn Bay: T. Mellard Reade.—Observations on the Geology of Franz Josef Land: Dr. Reginald Koettlitz.—Notes on Rocks and Fossils from Franz Josef Land brought home by Dr. Koettlitz, of the Jackson-Harmsworth Expedition, in 1897: E. T. Newton, F.R.S., and J. J. H. Teall, F.R.S.—On the Corallian Rocks of Upware: C. B. Wedd.

FRIDAY, JUNE 24.

PHYSICAL SOCIETY, at 5.—Exhibition of an Apparatus illustrating the Action of Two Coupled Electric Motors: Prof. Carus-Wilson.—Exhibition of Weedon's Expansion of Solids Apparatus: J. Quick.—On the Theory of the Hall Effect in a Binary Electrolyte: Dr. F. G. Donnan.

SATURDAY, JUNE 25.

GEOLOGISTS' ASSOCIATION (Liverpool Street Station, G.E.R.), at 9.30 a.m.—Excursion to Sudbury. Director: Dr. J. W. Gregory.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

BOOKS.—Grundriss der Vergleichenden Anatomie der Wirbelthiere: Prof. R. Wiedersheim, Vierte, Gänzlich Umgearbeitete Auflage (Jena, Fischer).—The Wonderful Century: A. R. Wallace (Sonnenschein).—Royal University of Ireland Exam. Papers, 1897 (Dublin, Ponsobny).—University Extension College, Reading, Calendar 1897-98, 3rd edition (Reading).—The Cubomedusæ: F. S. Conant (Baltimore, Johns Hopkins Press).

PAMPHLETS.—Lessons in Domestic Science: E. R. Lush, Part 1 (Macmillan).—The Romanes Lecture, 1898: Types of Scenery and their Influence on Literature: Sir A. Geikie (Macmillan).

SERIALS.—Zeitschrift für Wissenschaftliche Zoologie, lxxiii. Band, 4 Heft (Leipzig).—Physical Review, February, March, April (Macmillan).—Die Verteilung der Erdmagnetischen Kraft in Österreich-ungarn: Prof. J. Litznar, II. Theil (Wien, Gerold).—American Journal of Science, June (New Haven).—Sechster Jahres-Bericht des Sonnlich-Vereines für das Jahr 1898 (Wien).—Himmel und Erde, June (Berlin).—Bulletin de la Société Impériale des Naturalistes de Moscou, No. 4 (Moscou).—Journal of the Institution of Electrical Engineers, June (Spon).—Brain, Part 81 (Macmillan).

CONTENTS.

	PAGE
On Laboratory Arts. By C. V. Boys, F.R.S.	145
A New Text-Book of Zoology. By Prof. E. Ray Lankester, F.R.S.	147
The Analysis of Ores. By John Parry	149
Our Book Shelf:—	
Biedermann: "Electro-physiology."—J. B. S.	150
Praeger: "Open-air Studies in Botany: Sketches of British Wild-flowers in their Homes"	150
"The Journal of the Iron and Steel Institute"	150
Cheriton: "A Simplified Euclid"	150
Letters to the Editor:—	
The Origin of the Aurora Spectrum.—Prof. Arthur Schuster, F.R.S.	151
The Action of Electric Discharges on Photographic Plates.—A. A. C. Swinton	151
A High Rainbow.—Prof. Sidney T. Moreland	151
Nautical Astronomy. (With Diagrams.) By Captain J. F. Ruthven	151
The London University Bill	154
The Art and Science Buildings at South Kensington	155
Notes	156
Our Astronomical Column:—	
Encke's Comet	160
New Determination of the Earth's Density	160
The Large Refractors of the World	160
The Leeds Astronomical Society	160
Recent Experiments on certain of the Chemical Elements in relation to Heat. By Prof. W. A. Tilden, F.R.S.	160
Science in the Theatre. (Illustrated.)	162
University and Educational Intelligence	165
Societies and Academies	166
Diary of Societies	168
Books, Pamphlets, and Serials Received	168