

—The president communicated some numerical illustrations of the diffraction of sound. These were intended to show the extreme facility with which sounds of relatively large wavelength can make their way round obstacles or through apertures. Thus, with a wave-length of 4 feet, a wire $\frac{1}{8}$ of an inch in diameter dissipates only the fraction 6.6×10^{-8} of the energy which falls upon it; a spherule of water $\frac{1}{8}$ of an inch in diameter scatters only 1.3×10^{-16} . Again, a perforated screen or grating may present hardly any obstacle to the transmission of sound, although the apertures occupy only a small proportion of the total area. Reference was made to the bearing of such results on the attempts made to improve the acoustic properties of buildings by hanging wires, and on current notions as to the possibility of the reflection of sound from clouds.

PARIS.

Academy of Sciences, April 9.—M. Fouqué in the chair. —On the scientific utility of an auxiliary international language, by M. H. Sebert. This language should be capable of being used for the ordinary intercourse of social life, for commercial purposes and for scientific reports; it should be easy of acquisition, and it ought not to be an existing language. Nor can a dead language be used, even if its grammar were simplified and its vocabulary enriched. The creation of a new artificial language alone permits the realisation of simplicity and the unity of method to be obtained by the union of elements borrowed from different living tongues.—On the services which the auxiliary international language of M. le Dr. Zamenhof, known under the name of *Esperanto*, can render to science, by M. Ch. Méray.—Generalisation of Trouton's law, by M. de Forcrand. In all chemical or physical phenomena the heat of solidification of any gas is proportional to its temperature of vaporisation under atmospheric pressure.—New method of distinguishing colouring matters, application to the indophenols, by MM. C. Camichel and P. Bayrac. The absorption of light by solutions of indophenols in alcohol, ether, carbon bisulphide and chloroform has been studied. Taking wave-lengths as abscissæ and coefficients of transmission as ordinates, curves of the form of the parabola were obtained with the convex side towards the axis of abscissæ; the branch of the curve corresponding to the red rises much more rapidly than that corresponding to the green or blue. To distinguish each of the compounds studied, the lowest point of the curve was determined—that is, the minimum transparency. This minimum is independent of the concentration for all the compounds of which the coefficient of absorption is proportional to the concentration, following Beer's law; it varies with the solvent in a manner different from that noticed by Kundt.—On the reaction of the amidobenzophenones and the aromatic amines in the presence of sulphuric acid, by M. Paul Lemoult. In the presence of sulphuric acid the paramidobenzophenones give with certain aromatic amines, to the exclusion of others, reaction products which are colouring matters; the only amines capable of this reaction are those which have at least two aromatic groups directly united with nitrogen; it is necessary, moreover, that one of these be a phenyl group, and that its para-position be free, the nitrogen being in 1.—The angle limiting the numeration of objects and the movements of the eyes, by MM. André Broca and D. Sulzer.—Is the resistance of Algerian sheep to foot-rot hereditary? by M. P. Pourquier.—On Koswite, a new pyroxenite from the Ural Mountains, by MM. L. Duparc and F. Pearce.—On the "blood rain" observed at Palermo in the night of the 9th to 10th March, 1901, by M. Stanislas Meunier. In a hundred parts of the powder were found, water, 5.20; organic matter, 3.17; sand, 59.14; carbonate of lime, 23.91; and (by difference) clay, 8.58.—On the oxidation of iron protosulphide, by M. Gay-Lancermine.

DIARY OF SOCIETIES.

THURSDAY, APRIL 18.

ROYAL INSTITUTION, at 3.—Naturalism in Italian Painting: Roger Fry.
SOCIETY OF ARTS (Indian Section), at 4.30.—Madras, the Southern Satrapy: J. D. Rees.
RÖNTGEN SOCIETY, at 8.—Meeting for Discussion. Subject: X-Ray Therapeutics: To be opened by Miss M. M. Sharpe.
CHEMICAL SOCIETY, at 8.—Researches on Moorland Waters. Part II. On the Origin of the Combined Chlorine: W. Ackroyd.—Robinin, Viola-queritrin, and Osyritrin: A. G. Perkin.—Preparation of Orthodimethoxybenzoin, and a New Method of preparing Salicylaldehydemethyl ether: J. C. Irvine.—(1) Action of Alkyl Haloids on Aldoximes and Ketoximes, Part II. (2) The Supposed Existence of Two Isomeric Triethylloxamines: Wyndham R. Dunstan and E. Goulding.—(1) Nitrocamphene, Amino-camphene, and Hydroxycamphene; (2) Action of Hydroxylamine on the Anhydrides of Bromonitrocamphene: M. O. Forster.—The Influence of Cane Sugar on the Conductivities of Potassium Chloride and Potassium

Hydroxide, with Evidence of Salt Formation in the Latter Case: C. J. Martin and O. Masson.
INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—Replies of Mr. H. Ravenshaw and Mr. S. F. Walker to the Discussion on their Papers read at the last Meeting.—Test-Room Methods of Alternate Current Measurements: A. Campbell.—Note on the Use of the Differential Galvanometer: C. W. S. Crawley.

FRIDAY, APRIL 19.

ROYAL INSTITUTION, at 9.—The Existence of Bodies Smaller than Atoms: Prof. J. J. Thomson, F.R.S.
INSTITUTION OF CIVIL ENGINEERS, at 8.—The Theory of Cast-Iron Beams: E. V. Clark.
INSTITUTION OF MECHANICAL ENGINEERS, at 8.—Address by the President, W. H. Maw.

SATURDAY, APRIL 20.

ROYAL INSTITUTION, at 3.—Climate: its Causes and Effects: J. Y. Buchanan, F.R.S.

MONDAY, APRIL 22.

SOCIETY OF ARTS, at 8.—Alloys: Sir W. C. Roberts-Austen, K.C.B., F.R.S.

TUESDAY, APRIL 23.

ROYAL INSTITUTION, at 3.—Cellular Physiology, with Special Reference to the Enzymes and Ferments: Dr. A. Macfadyen.
ROYAL STATISTICAL SOCIETY, at 5.

WEDNESDAY, APRIL 24.

SOCIETY OF ARTS, at 8.—Patent Law Reform: Alexander Siemens.
GEOLOGICAL SOCIETY, at 8.—Notes on Two Well-Sections: Rev. R. Ashington Bullen.—(1) On the Geological and Physical Development of Guadeloupe; (2) On the Geological and Physical Development of Anguilla, St. Martin, St. Bartholomew, and Sombbrero; (4) On the Geological and Physical Development of the St. Christopher Chain and Saba Banks: Prof. J. W. Spencer.

THURSDAY, APRIL 25.

ROYAL INSTITUTION, at 3.—Naturalism in Italian Painting: Roger Fry.
INSTITUTION OF ELECTRICAL ENGINEERS, at 8.
INSTITUTION OF CIVIL ENGINEERS, at 8.—"James Forrest" Lecture—On Chemistry in its Relations to Engineering: Prof. Frank Clowes.

FRIDAY, APRIL 26.

ROYAL INSTITUTION, at 9.—Colour in the Amphibia: Dr. Hans Gadow, F.R.S.
SOCIETY OF ARTS, at 8.—Polyphase Electric Working: Alfred C. Eborall.
PHYSICAL SOCIETY, at 5.—On the Thermodynamical Correction of the Gas Thermometer: Prof. Callendar, F.R.S.—On the Production of a Bright-line Spectrum by Anomalous Dispersion and its Application to the Flash-Spectrum: Prof. R. W. Wood.

SATURDAY, APRIL 27.

ROYAL INSTITUTION, at 3.—Climate: its Causes and its Effects: J. Y. Buchanan, F.R.S.

CONTENTS.

PAGE

Egyptian Chronology	581
Electro-Chemistry. By Dr. F. Mollwo Perkin	582
Sciater's Mammals of South Africa. By R. L.	583
Infinitesimal Geometry. By R. W. H. T. H.	584
Our Book Shelf:—	
Vivarez: "Les Phénomènes électriques et leurs Appli- cations"	585
Elliott: "The Agricultural Changes and Laying Down Land to Grass"	585
"Friedrich Wöhler, Ein Jugendbildniss in Briefen an Hermann von Meyer."—H. M.	586
Schumann and Lauterbach: "Die Flora der Deutschen Schutz-gebiete in der Südde"	586
Jastrow: "Fact and Fable in Psychology"	586
Letter to the Editor:—	
Selenium in Sulphuric Acid.—V. H. Veley, F.R.S.	587
The Board of Trade and Electric Lighting	587
Seismology in Japan. By Prof. J. Milne, F.R.S.	588
The Eye in the Recently Discovered Cave Sala- mander of Texas. By G. B. H.	589
The Commercial Uses of Peat. By W. H. Wheeler	590
The British and German Antarctic Ships	591
Meeting of the International Association of Academies	591
Notes	592
Our Astronomical Column:—	
Nova Persei	596
A Remarkable Group of Nebulous Spots	596
Stonyhurst College Observatory	596
Catalogue of Double Stars	596
Indian Forestry. By Sir Dietrich Brandis, K.C.I.E., F.R.S.	597
Submarine Boats	601
The Currents in the Gulf of St. Lawrence	601
University and Educational Intelligence	602
Societies and Academies	603
Diary of Societies	604