

relating to the propagation of motion, by M. Hugoniot. The method employed by the author in studying the propagation of motion in fluids is here generalised and extended to all movements regulated by the same system of mathematical formulas.

—On the thermo-electric properties of iodide of silver, phosphuret of zinc, sulphuret of tin, and some other chemical compounds, by M. G. Chaperon.—On the density and compressibility of gases and vapours, by M. Antoine. The compressibility of atmospheric air is shown to approach that of nitrogen, whence an important induction is drawn for the use of automatic torpedoes in marine warfare.—On the optical phenomenon known as simultaneous contrast, that is, the tendency to produce the sensation of a complementary colours in the neighbourhood of any coloured surface, by M. Aug. Charpentier. From his researches the author infers that this phenomenon of contrasting colours produced in a region not directly excited is simply a case of *induced colours* in the literal and figurative sense of the expression.—Transformation of the protochloride of chromium into a sesquichloride: molecular states of the oxides of chromium, by M. Recoura.—On monochloruretted vinyl ethylic ether, trichloruretted, pentachloruretted, and some other chloruretted ethers, by M. L. Godefroy. The first-mentioned of these ethers, discovered by the author, has enabled him to prepare six other ethers, some already known, some new, and forming two distinct series with almost opposite general characteristic properties.—A study of the isomeric naphthylphenylcarbons, by M. Rospendowski.—On the eleven genera of the land *Lumbricus* established by Kinberg, by M. Edm. Perrier. Most of these so-called genera are shown to be mere species, and all the genera known in the time of Kinberg, or down to the year 1872, are now reduced to four. To these are here added eleven others, making fifteen at present known.—On the food of turtles, by MM. G. Pouchet and J. de Guerne. Although usually supposed to be herbivorous, the stomach of some turtles captured in the Azores waters yielded remains of *Hyalosia tridentata*, *Lepas anatifera*, besides *Medusæ* and small fishes.—Note on the discovery of a Cenomanian deposit at Pech de Foix, containing *Pygaster truncatus*, *Rhynchonella grasiana*, and other fossils of the same epoch, by M. J. Roussel.—Experimental essay on the toxic properties of febrile urines, by M. V. Feltz.—Note on the project of a railway from the coast of Syria to the Persian Gulf, by M. A. Dumont. The projected Euphrates Valley scheme connecting the Mediterranean with the Persian Gulf is favourably discussed from the engineering and economic standpoints. This alternative overland route is declared to be a necessity in the near future, in consequence of the continually increasing traffic through the Suez Canal. At the conclusion of the paper M. de Lesseps also spoke in favour of the scheme, which might be carried out for about 10,000,000.

GOTTINGEN

Royal Society of Sciences, Aug. 1, 1885.—On the theory of liquid jets, by W. Voigt.—The spectrum of the brush discharge, by E. Hoppe. The lines showed a certain correspondence to those of aurora.—On the pyro-electricity of tourmaline, by E. Riecke. The method was to heat a tourmaline a given time in a space of high constant temperature, then hang it by a cocoon fibre to cool near the knob of a gold-leaf electroscope, whose behaviour was then noted. In cooling, the maximum of electric charge occurs if the tourmaline has first taken throughout the temperature of the heating space. The charge corresponding to a regular heating is nearly the same as that with an irregular, if the mean temperature of the latter be equal to the constant temperature of the former.—On Crinoids, by H. von Könen.

November 7.—On a representation of elliptic modulus functions, by infinite products, by H. von Mangoldt.—On Macculagh's theory of total reflection for isotropic and anisotropic media, by P. Volckmann.

STOCKHOLM

Academy of Science, March 12.—Report on a visit to the Continent for the study and research of chemicals, by Dr. J. M. Lovén.—On *Biunclearia*, a new genus of *Conferveæ*, by Prof. Wittrock.—On *Erythraea exsiccata*, V. B. Wittrock.—Report on a visit to the province of Jemtland (Sweden) for the prosecution of mycological studies, by Herr C. J. Johansson.—Report on a visit to the province of Scania for the prosecution of bryological studies, by Dr. A. L. Grönvall.—On the formation of zoospores and quiescent spores in some species of the genus *Conferva*, by G. Lagerheim.—On the "Herbarium Ruborum Scandinaviæ" of Dr. C. J. Lindeberg, by

Prof. Wittrock.—Report on a visit to Ireland, the North of France, Holland, and Westphalia, in order to study the Cretaceous formations of these countries, by Dr. J. C. Moberg.—On a discussion with a view to prove the stability of the planetary system, by Prof. H. Gylde.—Sur une formule dans la théorie des fonctions, by Prof. Pincherle of Bologna.—Announcements on the mathematician Petrus de Dacia, and on writings (third part), by Dr. G. Eneström.—On a geological map of Scandinavia, Denmark, and Finland, exhibited and commented upon by Prof. O. Forell.—On the classification of tourmaline with the group of the rhombohedral tetartoehedric forms of the hexagonal system, by Dr. W. Ramsay.

BOOKS AND PAMPHLETS RECEIVED

"The Fresh-water Fishes of Europe," by H. G. Seeley (Cassell).—"Traité de la Détermination des Orbites des Comètes et des Planètes," by A. Oppolzer (Gauthier-Villars).—"Templeton's Workshop Companion," enlarged by Hutton (Lockwood).—"Report of the Mitchell Library, Glasgow, 1885" (Anderson).—"Il Grande Ipnatismo," by Dr. G. Campill (Bocco, Turin).—"Sound, Light, and Heat," by C. Bird (Relfe).—"Gardens of Light and Shade" (Stock).—"Encyclopædia Britannica," vol. xx. (Black).—"On Asthma," by Dr. H. Dobell (Smith, Elder, and Co.).—"Journal of the Royal Microscopical Society," April (Williams and Norgate).—"Mechanics and Faith," by C. T. Porter (Putnam).—"Systematische Übersicht der Fossilen Myriopoden Arachnoideen und Insekten" i. Abth. Bd. ii., by S. Scudder (München).—"Journal of the Society of Telegraph-Engineers and Electricians," vol. xv. No. 60 (Spon).—"Verhandlungen der Naturhistorischen Vereines," second year, part 2 (Max Cohen, Bonn).—"The Auk," April (Foster, New York).—"Journal of the Asiatic Society of Bengal," April liv. part 2, No. 3, 1885 (Calcutta).—"American Museum of Natural History," Annual Report of the Trustees, &c., for the Year 1885-86 (Martin, N.Y.).—"Johns Hopkins University: Studies from the Biological Laboratory," vol. iii. No. v.—"The Influence of Sewerage and Water Supply on the Death Rate in Cities," by E. T. Smith.—"What is Materialism," by L. Stephen (E. W. Allen).—"Charles Darwin," by H. W. S. Worsley-Benison (Seers, Fath).—"Les Orages au Sud de la Russie," by A. Klossovsky (Odessa).

CONTENTS

	PAGE
Injurious Insects	577
Across the Jordan	578
Harbours. By Major Allan Cunningham, R.E.	579
Our Book Shelf:—	
Worthington's "First Course of Physical Laboratory Practice"	580
Wormell's "Lectures on Heat, Sound, and Light"	580
Errera's "Expérience sur l'Ascension de la Sève chez les Plantes"	580
Letters to the Editor:—	
The Lost Found.—Boole Justified and Monge Reinstated in His Rights by Prof. Beman of the University of Michigan, U.S.—Prof. J. J. Sylvester, F.R.S.	581
On the Velocity of Light as Determined by Foucault's Revolving Mirror.—J. Willard Gibbs	582
The Effect of Change of Temperature on the Velocity of Sound in Iron.—Herbert Tomlinson	582
Sound-producing Apparatus of the Cicadas.—C. S. Middlemiss	582
Ferocity of Animals.—F. H. Collins	583
Tropical Dew.—Lieut.-Col. A. T. Fraser, R.E.	583
The Climbing Powers of the Hedgehog.—Robert H. Scott	583
Stars with Banded Spectra. By Miss A. M. Clerke	583
The Institution of Naval Architects	585
On the Use of Models for Instruction in the Magnetism of Iron Ships. (Illustrated)	587
Notes	589
Our Astronomical Column:—	
Relation of Asteroid Orbits to that of Jupiter	592
The Proposed Change in the Astronomical Day	592
The Pleiades as Seen and as Photographed	592
Astronomical Phenomena for the Week 1886	
April 25—May 1	592
Geographical Notes	593
Some Results of Observations with Kite-Wire Suspended Anemometers up to 1300 Feet above the Ground in 1883-85. By E. Douglas Archibald	593
Basic Cinder	595
An Improved Form of Temperature Regulator. By Horace Darwin. (Illustrated)	596
Scientific Serials	597
Societies and Academies	597
Books and Pamphlets Received	600