

on the frequency of laminated types.—F. **Grandjean**: The optical study of the absorption of heavy vapours by certain zeolites. The substances absorbed by the crystal of zeolite affect the optical properties of the crystal to a marked extent. The optical properties found are never intermediary between those of the crystal and those of the body absorbed.—Fernand **Guéguen**: The existence of sclerotes in *Mucor sphaerosporus*.—R. **Anthony** and W. B. **Pietkiewicz**: New experiments on the rôle of crotaphytic muscle (temporal) on the morphological constitution of the skull and face.—Louis **Lapicque**: The theory of electrical stimulation: a hydraulic analogy.—M. **Baudran**: Artificial media capable of attenuating or strengthening the virulence of Koch's bacillus. The formulæ of the two media differ only in the use of iron in the one and manganese in the other. The one containing iron causes a marked attenuation in the virulence of the bacilli grown in it; the replacement of the iron by manganese, on the other hand, has the exactly contrary effect.—MM. **Trillat** and **Sauton**: The action of putrid gases on micro-organisms. The putrid gases arising from the decomposition of animal extracts were allowed to act on yeast, parallel cultures of the same yeast without the addition of such gases being made at the same time. The effect on the yeast was measured by the alcohol produced. Both increases and decreases in the fermentative action were observed, the effect depending on the proportion of gas present.—Alfred **Angot**: The earthquake of November 10, 1909. Details of the traces of the seismographs at Parc Saint-Maur Observatory. The epicentre was calculated to be at a distance of 8700 kilometres.—M. **Audouin**: Observations made in the course of the Tilho expedition.—M. **de Beauchamp**: The working of the apparatus for the protection of the Vienne district against hail and thunderstorms during the year 1909. The protection during the year has been very satisfactory, and the system is to be further extended.—A. **Gravel**: *Résumé* of some scientific observations made on the coasts of Mauritania (N. Africa) from 1905 to 1909.

DIARY OF SOCIETIES.

THURSDAY, NOVEMBER 25.

ROYAL SOCIETY, at 4.30.—On the Change in Hue of Spectrum Colours by Dilution with White Light: Sir William de W. Abney, K.C.B., F.R.S.—On the Nature of the Hydrogen Flocculi and their Structure at Different Levels in the Solar Atmosphere: Prof. G. E. Hale, For. Mem. R.S., and F. Ellerman.—The Boiling Point of Sulphur corrected by Reference to New Observations on the Absolute Expansion of Mercury: Prof. H. L. Callendar, F.R.S., and H. Moss.—(1) On the Refraction and Dispersion of Neon; (2) On the Refraction and Dispersion of Air, Oxygen, Hydrogen, and Nitrogen; (3) On the Refraction and Dispersion of Sulphur Dioxide and Hydrogen Sulphide, and their Relation to those of their Constituents: C. Cuthbertson and M. Cuthbertson.—On Flapping Flight: Prof. M. F. Fitzgerald.—The Crystalline Structure of Iron at High Temperatures: W. Rosenhain and J. C. W. Humphrey.—The Relation of Thallium to the Alkali Metals: a Study of Thallium-zinc Sulphate and Selenate: Dr. A. E. H. Tutton, F.R.S.—On the Nature of the Diffraction Figures due to the Helimeter: P. F. Everitt.—The Motional Effects of the Maxwell Ether-Stress: E. Cunningham.—The Aberrations of a Symmetrical Optical Instrument: Dr. H. C. Pocklington, F.R.S.—The Spectrum of Radium Emanation: H. E. Watson.—The Electric Conductivity and Density of Solutions of Hydrogen Fluoride: Prof. E. G. Hill and Dr. A. P. Sinker.—Sleeping Sickness in Uganda. Duration of the Infectivity of the *Glossina palpalis* after the Removal of the Lake-shore Population: Colonel Sir David Bruce, C.B., F.R.S., Captains A. E. Hamerton and H. R. Bateman, R.A.M.C., and Captain F. P. Mackie, I.M.S.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—The Present Aspects of Electric Lighting: H. W. Handcock and A. H. Dykes.

FRIDAY, NOVEMBER 26.

PHYSICAL SOCIETY, at 5.—The Effective Resistance and Inductance of a Helical Coil: Dr. J. W. Nicholson.—Ductile Materials under Combined Stress: W. A. Scoble.—The Recoil of Radium C from Radium B: Dr. W. Makower and Dr. Sidney Russ.—The Sun's Motion with Respect to the Æther: Dr. C. V. Burton.

MONDAY, NOVEMBER 29.

ROYAL SOCIETY OF ARTS, at 8.—Aeronautics: C. C. Turner.

INSTITUTE OF ACTUARIES, at 5.—American Railway Securities as Investments for Insurance Companies: H. Ansell.

TUESDAY, NOVEMBER 30.

ROYAL SOCIETY OF ARTS, at 4.30.—Agricultural Development in Nyasaland: S. Simpson.

ROYAL ANTHROPOLOGICAL INSTITUTE, at 8.15.—The Pit Dwellings at Holderness: Canon Greenwell, F.R.S., and Rev. K. A. Gatty.

FARADAY SOCIETY, at 8.—On the Electro-analytical Determination of Lead as Peroxide: Dr. H. J. S. Sand.—The Calorimetric Analysis of Hydrated Salt: Prof. F. G. Donnan and Dr. G. D. Hope.—(1) On the

Influence of Dissolved Gases on the Electrode Potential in the System Silver-Silver Acetate, aq.; (2) Contributions to the Study of Ionisation in Aqueous Solutions of Lead Acetate and Cadmium Acetate: A. Jacques.

INSTITUTION OF CIVIL ENGINEERS, at 8.—*Further discussion*: The Single-phase Electrification of the Heysham, Morecambe and Lancaster Branch of the Midland Railway: J. Dalziel and J. Sayers.—The Equipment and Working-results of the Mersey Railway under Steam and under Electric Traction: J. Shaw.—The Effect of Electrical Operation on the Permanent-way Maintenance of Railways, as Illustrated at the Tynemouth Branches of the North-Eastern Railway: Dr. C. A. Harrison.

WEDNESDAY, DECEMBER 1.

ROYAL SOCIETY OF ARTS, at 8.—Improvements in Resilient Wheels for Vehicles: Hon. R. C. Parsons.

SOCIETY OF PUBLIC ANALYSTS, at 8.—The Composition of Cream: R. R. Tatlock and R. T. Thomson.—Analyses of Vulcanised Rubber Goods: Clayton Beadle and Henry P. Stevens.—On the Gravimetric Estimation of Nickel in Nickel Steel: E. L. Rhoad.—Notes on the Milk Supply of Two Large Towns: F. W. F. Arnaud and Edward Russell.

GEOLOGICAL SOCIETY, at 8.—The Tremadoc Flats and Associated Rocks of South-east Carnarvonshire: W. G. Fearnside.—On some Small Trilobites from the Cambrian Rocks of Comley, Shropshire: E. S. Cobbold.—(1) The Rock of Pulau Ubin and Pulau Nanas, Singapore; (2) The Tourmaline-Corundum Rocks of Kinta, Federated Malay States: J. B. Scrivenor.

ENTOMOLOGICAL SOCIETY, at 8.—Discussion on *Agriades coridon* and *A. thetis (bellargus)*, opened by Mr. J. W. Tutt.

THURSDAY, DECEMBER 2.

ROYAL SOCIETY, at 4.30.

RÖNTGEN SOCIETY, at 8.15.—Some Effects of Electrical Discharges on Photographic Plates: Prof. A. W. Porter.

LINNEAN SOCIETY, at 8.—Nudibranchs from the Indian Ocean: Sir Chas. Eliot, K.C.M.G.—Trichoptera von Mr. Hugh Scott, auf den Seychellen gesammelt: Dr. Georg Ulmer.—Report on the Brachiopoda obtained from the Indian Ocean by the *Sealark* Expedition, 1905: Dr. W. H. Dall.—Narrative of the *Sealark* Expedition, Part III.: Prof. J. Stanley Gardiner, F.R.S., and others.

FRIDAY, DECEMBER 3.

INSTITUTION OF CIVIL ENGINEERS, at 8.—The Design of Generating Stations: G. Ingram.

CONTENTS.

	PAGE
The "Origin of Species" and its Lessons. By Prof. R. Meldola, F.R.S.	91
Alpine Hydrology. By B. C.	93
The Science of Pathology	94
A New Way in Arithmetic. By G. B. M.	95
Lissajous's Figures. By Prof. C. V. Boys, F.R.S.	96
Our Book Shelf:—	
Gunn: "Cattle of Southern India."—R. L.	96
Davey: "Flora of Cornwall"	97
Osborne: "The Elements of Animal Physiology"	97
Alcock and Ellison: "A Text-book of Experimental Physiology for Students of Medicine."—W. D. H. Bagshaw: "Elementary Photo-micrography."—J. E. Barnard	97
Letters to the Editor:—	
The Inheritance of Acquired Characters.—A. Bacot; Prof. Arthur Dendy, F.R.S.	98
Radio-Activity and the Rocks.—Hon. R. J. Strutt, F.R.S.	98
The Auroral Display of October 18.—F. C. Jordan	98
Large Flying-fish.—C. Howard Tripp	98
Spinal Anæsthesia. By A. C. J.	99
The Causes of the Germinative Processes of Seeds. By Prof. J. Reynolds Green, F.R.S.	99
Dr. W. J. Russell, F.R.S. By G. C. F.	101
Notes	102
Our Astronomical Column:—	
Atmospheric Refraction	107
The Spectrum of Halley's Comet	107
Seasonal Change on Mars	107
The Perseid Meteors in 1909	107
A Daylight Meteor	107
Spectroscopic Binaries	107
The "Annuaire" of the Bureau des Longitudes	107
Conference on Malaria in India	107
Economic Entomology in the United States	108
The Methods of Mathematics. By Prof. George A. Gibson	109
Developments of Electrical Engineering. By Prof. Gisbert Kapp	112
University and Educational Intelligence	115
Societies and Academies	117
Diary of Societies	120