

direct product of the electrical resolution, but are in reality an extension of the helium spectrum. Two of these lines may, perhaps, be represented as lines of combination series.

## PARIS.

**Academy of Sciences, May 21.**—M. Léon Guignard in the chair.—P. Termier: Contribution to the knowledge of the tectonic of the Asturias.—C. de la Vallée Poussin: The best approximation of the functions of a real variable by expressions of given order.—E. Aries: The saturated vapour pressures of tetratomic bodies. The method described in earlier papers is applied to the cases of ammonia, acetylene, and phosphorus trichloride. From the experimental data available a full comparison is only possible in the case of ammonia, and for this the agreement between the experimental and calculated values is very satisfactory.—J. Pérès: Some remarks on certain developments in series.—A. Buhl: The series of Taylorian polynomials and Weierstrass domains.—M. Luizet: Observations of the brightness of Nova Licorne.—A. Véronnet: The cooling and evolution of the sun.—C. Matignon: Ferro-silicons not attacked by acids. Analyses are given of six ferro-silicons and one ferro-boron and the loss on treatment with four acid solutions, two of nitric acid and two of mixtures of acetic and butyric acids, studied. The comparative losses under similar conditions are tabulated.—MM. Masson and Faucon: The absorption of ultra-violet radiations by the phenylmethanes. Details of measurements are given for benzene, toluene, diphenylmethane, and triphenylmethane.—Ed. Chauvenet and Mlle. L. Nicole: The basic nitrates of zirconyl.—D. Berthelot and R. Trannoy: The sugar content of *Sorghum saccharatum* at different stages of growth. The results of analyses of juice taken on eight dates between August 10 and November 30 show a maximum sugar content about October 5. It is shown that the richness in sugar can be calculated from the density of the juice.—L. Cavel: The antiseptic value of some essential oils. The experiments were carried out on diluted sewage, and the amounts of essential oil determined stopping all bacterial growth. Results are given for forty-five essences, phenol being used as a standard of comparison. Two-thirds of the essential oil examined proved to be stronger antiseptics than phenol, oil of thyme being the most powerful.—M. Folley: The aorta in exophthalmic goitre.

## BOOKS RECEIVED.

The British Academy. Cosmic Law in Ancient Thought. By T. W. Rhys-Davids. Pp. 11. (London: H. Milford.) 1s. net.

Italian Mountain Geology. By C. S. DuRiche Preller. 2 parts. Part i., pp. 99; part ii., pp. 107 to 192. (London: Dulau and Co., Ltd.)

The Art of Health. By J. Long. Pp. xi + 192. (London: Chapman and Hall, Ltd.) 5s. net.

An Introduction to the History of Science. By Prof. W. Libby. Pp. x + 288. (London: G. G. Harrap and Co., Ltd.) 5s. net.

Acoustics for Musicians. By Prof. P. C. Buck. Pp. 152. (Oxford: Clarendon Press.) 7s. 6d. net.

## DIARY OF SOCIETIES.

THURSDAY, JUNE 6.

ROYAL SOCIETY, at 4.30.—Brevity, Frequency of Rhythm and Amount of Reflex Nervous Discharge as Indicated by Reflex Contraction: N. B. Dreyer and Prof. C. S. Sherrington.  
ROYAL INSTITUTION, at 3.—The Abode of Snow; Its Appearance, Inhabitants, and History: Sir F. Younghusband.  
LINNEAN SOCIETY, at 4.30.—A Revision of Some Critical Species of *Echium* [Viper's Bugloss], as Exemplified in the Linnean and other Herbaria, with

NO. 2536, VOL. 101]

a Description of *Echium judaicum*, a New Species from Palestine: C. C. Lacaite.—Experiments with Cyclamen: Capt. A. W. Hill.—The Relationship between the Symbions in a Lichen: R. Paulson and S. Hastings.—Abnormal Apple-blossoms and Fruit: W. C. Worsdell.

FRIDAY, JUNE 7.

ROYAL INSTITUTION, at 5.30.—The Romance of Petroleum: Sir B. Redwood.

SATURDAY, JUNE 8.

ROYAL INSTITUTION, at 3.—Problems in Bird-migration: Prof. C. J. Patten.

MONDAY, JUNE 10.

ARISTOTELIAN SOCIETY, at 8.—The Ontological Argument for the Existence of God: Prof. A. A. Cock.  
ROYAL GEOGRAPHICAL SOCIETY, at 8.—The Backbone of Africa: Sir Alfred Sharpe.

SOCIETY OF ENGINEERS, at 5.30.—War on and under the Sea: Edwin Hall.

TUESDAY, JUNE 11.

ZOOLOGICAL SOCIETY, at 5.30.—On Two New Elasmobranch Fishes from the Upper Jurassic Lithographic Stone of Bavaria: Dr. A. Smith Woodward.—The Function of Pathology in Evolution: Morley Roberts.

WEDNESDAY, JUNE 12.

BRITISH ASSOCIATION GEOPHYSICAL COMMITTEE (Royal Astronomical Society), at 5.—Discussion: The Tides. Opener, Prof. H. Lamb, followed by Prof. Love, Mr. Proudman, and others.

THURSDAY, JUNE 13.

OPTICAL SOCIETY, at 7.—The Prevention of Filming in Enclosed Optical Instruments: H. S. Ryland.—A Chart for Finding the Number of Lenses in, and Size of, a Block: Horace Lee.—Charts for Assisting in the Selection of Suitable Glasses for Cemented Doublets: T. Smith.

FRIDAY, JUNE 14.

ROYAL ASTRONOMICAL SOCIETY, at 5.  
PHYSICAL SOCIETY, at 5.—Discussion: The Teaching of Physics in Schools: Opener, Sir Oliver J. Lodge.

## CONTENTS.

PAGE

Symmetry in Nature. By Dr. A. E. H. Tutton, F.R.S. . . . . .	261
Electricity Meters. By Dr. A. Russell . . . . .	262
Natural History Observations . . . . .	263
Our Bookshelf . . . . .	263
Letters to the Editor:—	
Construction for an Approximate Quadrature of the Circle.—Robert E. Baynes . . . . .	264
The "Wolf-note" in Pizzicato Playing. (Illustrated.) C. V. Raman . . . . .	264
The "Hay-box" Principle in Cooking.—An Inquirer . . . . .	264
British Oligochaet Worms.—Rev. Hilderic Friend . . . . .	264
The Position of Natural Science in the Educational System of Great Britain. By W. A. T. . . . .	265
Science and Administration. By Lt.-Col. W. A. J. O'Meara, C.M.G. . . . .	266
"After the War." By Prof. H. Louis . . . . .	268
Notes . . . . .	269
Our Astronomical Column:—	
Early History of the Solar System . . . . .	273
Stellar Investigations at Mount Wilson . . . . .	273
Spectra of Chromosphere and Corona . . . . .	274
The Metric System and Decimal Coinage. By Harry Allcock . . . . .	274
Progress of the Education Bill . . . . .	277
Organisation of Glass Industries . . . . .	277
The Royal Observatory, Greenwich . . . . .	278
University and Educational Intelligence . . . . .	278
Societies and Academies . . . . .	279
Books Received . . . . .	280
Diary of Societies . . . . .	280

Editorial and Publishing Offices:

MACMILLAN AND CO., LTD.,

ST. MARTIN'S STREET, LONDON, W.C.2.

Advertisements and business letters to be addressed to the Publishers.

Editorial Communications to the Editor.

Telegraphic Address: PHUSIS, LONDON.

Telephone Number: GERRARD 8830.