I

1

ī 0 1

Papers, 1800-1900. Subject Index. Vol iii., Physics. Part i., Generalities, Heat, Light, Sound. Pp. c+ 500+vii. (Cambridge University Press.) 18s. net.

Geological Literature added to the Geological Society's Library during the Year ended December 31, 1911. Pp. 164. (London: Geological Society.) 25.

The Positive Evolution of Religion : its Moral and Social Reaction. By F. Harrison. Pp. xx+267. Social Reaction. By F. Harrison. (London: W. Heinemann.) 215. net.

Researches in Colour Vision and the Trichromatic Theory. By Sir W. de W. Abney. Pp. xi+418+v plates. (London : Longmans and Co.) 215. net.

Egyptian Government. Almanac for the Year 1913. Pp. vii+212. (Cairo : Government Press.) P.T.5 The Gas, Petrol and Oil Engine. Vol. ii., The

Gas, Petrol and Oil Engine in Practice. New and Revised Edition. By Dr. D. Clark and G. A. Burls. Pp. viii+838. (London: Longmans and Co.) 25s. net.

Year Book of the Indian Guild of Science and Technology, 1912. Pp. 193. (Letchworth: The Letchworth Printers.)

## DIARY OF SOCIETIES.

THURSDAY, JANUARY 30.

- THURSDAY, JANUARY 30. ROVAL SOCIETV, at 4.30.—The Formation of Usually Convergent Fourier Series: Prof. W. H. Young.—The General Theory of Elastic Stability: R. V. Southwell.—A Spectro-photometric Comparison of the Emissivity of Solid and Liquid Copper and of Liquid Silver at High Temperatures with that of a Full Radiator: C. M. Stubbs.—A New Analytical Ex-pression for the Representation of the Components of Diurnal Variation of Terrestial Magnetism: G. W. Walker.—An Investigation into the Magnetic Behaviour of Iron and some other Metals under the Oscillatory Discharge from a Condenser: Prof. E. W. Marchant.—The Spontaneous Crystallisation and the Melting and Freezing-point Curves of two Sub-stances which form mixed Crystals and the Freezing Point Curve of which exhibits a Transition Point. Mixtures of p. Bromonitrobenzene and p. Chloronitrobenzene: Florence Isaac. ROVAL INSTITUTION, at 3.—Recent Research on the Gas Engine : Prof. B. Hopkinson.
- B. Hopkinson.

B. HOPKINSON. CONCRETE INSTITUTE, at 7:50.—The Settlement of Solids in Water and its Bearing on Concrete Work: Dr. J. S. Owens. SOCIETY OF DYERS AND COLOURISTS, at 8.—The Possibilities of a Standard Light and Colour Unit: J. W. Lovibond.—A Simple Method for Detect-ing Silk, Cotton and Wool Fibres in Admixture in Textiles: W. F. Dreaper.

**FRIDAV**, JANUARY 31. ROYAL INSTITUTION, at 9.—The Poetry and Philosophy of George Meredith: G. M. Trevelyan.

Meredith: G. M. Trevelyan. *MONDAY*, FEBRUARY 3.
 SOCIETY OF ENGINEERS, at 7:30.—The Bus v. Tram Controversy, and other Aspects of the London Traffic Problem: Wm. Yorath Lewis. Royal SOCIETY of Arrs, at 8.—Liquid Fuel: Prof. V. B. Lewes. ARISTOTELIAN SOCIETY, at 8.—Society of CHEMICAL INDUSTRY, at 8.—The Behaviour of Paint under the Conditions of Practice with special reference to the Aspersion cast upon Lead Paints: H. E. Armstrong and C. A. Klein.—The Technical Production of Ethane: C. Sprent.—The Feeding Value of the Horse Chestnut: S. J. M. Auld. INSTITUTION OF CULL ENGLWERSE, at 8.—Canalis and Canalised Rivers:

INSTITUTION OF CIVIL ENGINEERS, at 8.—Canals and Canalised Rivers: J. A. Saner.

VICTORIA INSTITUTE, at 4.30.-Vision, in Sacred and other History: Rev J. H. Skrine.

NUTORIA INSTITUTE, at 4.30. --Vision, in Sacred and other History: Rev J. H. Skrine. TUESDAY, FEBRUARY 4.
 ROVAL INSTITUTION, at 3.-The Heredity of Sex and some Cognate Problems: Prof. W. Bateson.
 RONTGEN SOCIETY, at 8.75.-The Construction of Induction Coils: R. S. Wright.-A Simple Method for Inserting Radium into Lengths of Sterile Rubber Tubes: C. E. S. Phillips.
 ZOOLOGICAL SOCIETY, at 8.30 --Contributions to the Anatomy and Systematic Arrangement of the Cestoidea. VIII. Some Species of Ichthyotenia and Ophidotenia from Ophidia: Dr. F. E. Beddard.-Report on the Deaths which occurred in the Zoological Gardens during 1973: H. G. Plimmer.-The Anterior Ambulactum of Echinocardium cordatum, Penn., and the Origin of Compound Plates in Echinoids : H. L. Hawkins.-Plankton from Christmas Island, Indian Ocean. II. Copepoda of the Genera Oithona and Paroithona : G. P. Farran.
 ROYAL ANTHROPOLOGICAL INSTITUTE, at 8.75.-Cave Exploration in Gibralter in September, 7072; Dr. W. L. H. Duckworth.
 INSTITUTION OF CIVIL ENGINEERS; at 8.-Further Discussion: The Canton-Kowloon Railway (Chinese Section): F. Grove and B. T., B. Boothby.-Ihe Canton-Kowloon Railway (British Section): G. W. Eves, Probable Paper : The Erection of the Boucanne River Viaduct, Canada : P. L. Pratley.

- P. L. Pratley. *WEDNESDAY*, FEBRUARY 5.
   SOCIETY OF PUBLIC ANALYSTS, at 8.—Antipyrine in Toxicological Analysis: G. D. Lander and H. W. Winter.—The Accurate Determination of Carbon Dioxide in Carbonates: F. S. Sinnatt.—A New Method for the Volumetric Estimation of Chromium, Vanadium and Iron in Admixture : F. W. Atack.—Note on Hardened Oils : A. W. Knapp. Royat Society of Arts, at 8.—I'he Economic and Hygienic Value of Good Illumination : Leon Gaster.

NO. 2257, VOL. 90

GEOLOGICAL SOCIETY, at 8 .- Two Deep Borings at Calvert Station (North Buckinghamshire), and on the Palezozic Floor North of the Thanes: Dr. A. M. Davies and J. Pringle.—The Skeleton of Ornithodesmus latidens from the Wealden Shales of Brightstone Bay (Isle of Wight): R. W. Hooley.

- THURSDAY, FEBRUARY 6. THURSDAY, FEBRUARY 6. ROVAL SOCIETY, at 4.30. Probable Papers: The Influence of the Resilience of the Arterial Wall on Blood Pressure and on the Pulse Curve: S. R. Wells and L. Hill. The Occurrence of a Ganglion in the Human Temporal Bone not hitherto described: A. A. Gray. The Action of Adrenin on Veins: J. A. Gunn and F. B. Chavase. A Preliminary Report on the Treatment of Human Trypanosomiasis and Yaws, with Metallic Antimony: Capt. H. S. Ranken. Further Researches on the Extrusion of Granules by Trypanosomes and on their Further Develop-ment. (With a Note on Methods by H. G. Plimmer): Major W. B. Fry and Capt. H. S. Ranken.
- ROYAL INSTITUTION, at 3.-Recent Research on the Gas Engine: Prof. B. Hopkinson.
- B. Hopkinson. LINNEAN SOCIETY, at 8.—Crosses of a Wild Pea with Cultivated Types: A. W. Sutton,—*Rheoxylon africanum*, a New Medullosean Stem: N. Bancroft.—Revision of the Linnean Types of Palsearctic Rhopalocera:

FRIDAV, FEBRUARY 7. ROVAL INSTITUTION, at 9.-Life in the Great Oceans: Sir John Murray, K.C.B.

SATURDAY, FEBRUARY 8. ROYAL INSTITUTION, at 3.—The Properties and Constitution of the Atom : Sir J. J. Thomson, O.M. -----

	GE
The Oak and its Lore. By Rev. John Griffith Fagnano's Mathematical Works. By G. H. B. Geology in the Southern Hemisphere. By G. A. J. C. Our Bookshelf Letters to the Editor:—	589 589 590 590 590
Luminous Halos surrounding Shadows of Heads.—J. Evershed; L. L. Fermor	592
R. I. Pocock, F.R.S.	593 593
	594
Shaw. Thermal Efficiency of Gas and ElectricityW. M.	594
Mason . Research Defence Society Sir David Gill, K.C.B., F.R.S., Prof. F. M. Sandwith, Dr. Stephen	594
	594 594 595
	595 597 597
Astronomical Occurrences for February	601 601 601 601
Relative Proper Motions of 162 Stars near the Orion Nebula. The Aviation Exhibits at the Science Museum,	601
South Kensington. (Illustrated.)	602
G. F. Daniell Modern Microscopical Optics with Special Refer- ence to Fluorite Objectives. By C. Metz	603 603
Some of the Next Steps in Botanical Science. By Prof. C. E. Bessey	607
University and Educational Intelligence Societies and Academies	610 612 613
Diary of Societies .	614

## Editorial and Publishing Offices: MACMILLAN & CO., LTD.,

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

Advertisements and business letters to be addressed to the Publishers.

Editorial Communications to the Editor.

Telegraphic Address: PHUSIS, LONDON.

Telephone Number : GERRARD 8830.