

The Counties of Clackmannan and Kinross. By J. P. Day. Pp. viii+145. (Cambridge: At the University Press.) 1s. 6d. net.

The Teaching of Geography. By B. C. Wallis. Pp. viii+221. (Cambridge: At the University Press.) 3s. 6d. net.

Molecular Association. By Dr. W. E. S. Turner. Pp. viii+170. (London: Longmans and Co.) 5s. net.

Ancient Hunters and their Modern Representatives. By Prof. W. J. Sollas. Second edition. Pp. xxiii+591. (London: Macmillan and Co., Ltd.) 15s. net.

Sun Lore of All Ages. By W. T. Olcott. Pp. xiii+346. (New York and London: G. P. Putnam's Sons.) 10s. 6d. net.

English Folk-Song and Dance. By F. Kidson and M. Neal. Pp. vii+178. (Cambridge: At the University Press.) 3s. net.

German Culture: The Contribution of the Germans to Knowledge, Literature, Art, and Life. Edited by Prof. W. P. Paterson. Pp. x+384. (London and Edinburgh: T. C. and E. C. Jack.) 2s. 6d. net.

## DIARY OF SOCIETIES.

### THURSDAY, MARCH 18.

ROYAL SOCIETY, at 4.30.—Bakerian Lecture: X-rays and Crystals: Prof. W. H. Bragg.

ROYAL INSTITUTION, at 3.—The Form and Structure of the London Basin: Dr. A. Strahan.

ROYAL SOCIETY OF ARTS, at 4.30.—The Indian Army: Lieut.-Colonel A. C. Yate.

INSTITUTION OF MINING AND METALLURGY, at 8.—Annual General Meeting—Presidential Address: Sir Thomas Kirke Rose.

LINNEAN SOCIETY, at 5.—Hollow-shafted Feathers: W. M. Webb.—The Lichens of South Lancashire: J. A. Wheldon and W. G. Travis.—Coloured Drawings and Lantern Slides of 36 British Orchids: E. J. Bedford.—A Few Australian Plants: Dr. A. B. Rendle.

INSTITUTION OF PETROLEUM TECHNOLOGISTS, at 8.—The Internal Combustion Engine on the Oilfield: F. G. Rappoport.

INSTITUTE OF METALS, at 3.—A selection of the following papers:—Some Experiments upon Copper-Aluminium Alloys: J. H. Andrew.—The Constitution of the Alloys of Copper with Tin. Parts I. and II.: J. L. Haughton.—Etching Re-Agents and Their Applications: O. F. Hudson.—The Effects of Heat and of Work on the Mechanical Properties of Metals: Prof. A. K. Huntington.—The Quantitative Effect of Rapid Cooling upon the Constitution of Binary Alloys. Part III. (Conclusion): Dr. G. H. Gulliver.—The Properties of Some Nickel-Aluminium and Copper-Nickel-Aluminium Alloys: Prof. A. A. Read and R. H. Greaves.—Some Appliances for Metallographic Research: Dr. W. Rosenhain.—The Micro-Chemistry of Corrosion. Part III. The Alloys of Copper and Zinc: S. White.

### FRIDAY, MARCH 19.

ROYAL INSTITUTION, at 9.—The Modern Piano Player—Scientific Aspects: Prof. G. H. Bryan.

INSTITUTION OF MECHANICAL ENGINEERS, at 8.—The Chemical and Mechanical Relations of Iron, Cobalt, and Carbon: Prof. J. O. Arnold and Prof. A. A. Read.

INSTITUTE OF METALS, at 10.30 a.m. and 3 p.m.—A Selection of the Papers enumerated above.

### SATURDAY, MARCH 20.

ROYAL INSTITUTION, at 3.—Recent Researches on Atoms and Ions: Sir J. J. Thomson.

### MONDAY, MARCH 22.

ROYAL SOCIETY OF ARTS, at 8.—House Building: M. H. Baillie Scott.

ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—Spitsbergen in 1914: Dr. W. S. Bruce.

### TUESDAY, MARCH 23.

ROYAL INSTITUTION, at 3.—The Belief in Immortality among the Poly-nesi-ans: Sir J. G. Frazer.

ZOOLOGICAL SOCIETY, at 5.30.—Exhibition of Partridges and other Game Birds: W. R. Ogilvie-Grant.—Contributions to the Anatomy and Systematic Arrangement of the Cestoidea.—XVI. On Certain Points in the Anatomy of the Genus *Amabilia* and of *Dasyurotaenia*. Dr. F. E. Beddard.—The True Coracid: R. Lydekker.—The Artificial Formation from Paraffin Wax of Structures resembling Molluscan Shells: J. T. Cunningham.—On Two new Species of *Polyplax* (Anoplura) from Egypt: Bruce F. Cummings.

INSTITUTION OF CIVIL ENGINEERS, at 8.—Discussion: The Improvement of the River Clyde and Harbour of Glasgow, 1873-1914: Sir Thomas Mason.—Probable Paper: On Impact Coefficients for Railway Girders: C. W. Anderson.

### WEDNESDAY, MARCH 24.

ROYAL SOCIETY OF ARTS, at 5.30.—The Work of the War Refugees' Committee: Lady Lugard.

INSTITUTION OF NAVAL ARCHITECTS, at 11 a.m.—The Watertight Sub-division of Ships: Prof. J. J. Welch.—The Increase of Safety Afforded by a Watertight Deck: K. G. Finlay.—At 3 p.m.—The Influence of Discharging Appliances on the Design of Large Ore-Carriers: J. Reid.—The Scantlings of Light Superstructures: J. Montgomery.—On the Strength and Spacing of Transverse Frames: C. F. Holt.

NO. 2368, VOL. 95]

GEOLOGICAL SOCIETY, at 8.—The Stratigraphy and Petrology of the Lower Eocene Beds of the North-Eastern Part of the London Basin: P. G. H. Boswell.

### THURSDAY, MARCH 25.

ROYAL SOCIETY, at 4.30.—*Probable Papers*: On Forms of Growth resembling Living Organisms and their Products slowly deposited from Metastable Solutions of Inorganic Colloids: Prof. B. Moore and W. G. Evans.—The Production of Growth or Deposits in Meta-stable Inorganic Hydrosols: Prof. Moore.—A Contribution to our Knowledge of the Chemistry of Coat-Colour in Animals and of Dominant and recessive Whiteness: H. Onslow.

ROYAL INSTITUTION, at 3.—The Ground beneath London: Dr. A. Strahan.

CHILD STUDY SOCIETY, at 6.—The Care of the Teeth: C. E. Wallis.

INSTITUTION OF ELECTRICAL ENGINEERS, at 8.—Telephone Troubles in the Tropics: W. L. Preece.

INSTITUTION OF NAVAL ARCHITECTS, at 11 a.m.—A Contribution to the Theory of Propulsion and the Screw Propeller: F. W. Lanchester.—A Comparison between the Results of Propeller Experiments in Air and Water: A. W. Johns.—Further Model Experiments on the Resistance of Mercantile Ship Forms: The Influence of Length and Prismatic Coefficients on the Resistance of Ships: J. L. Kent.—At 3 p.m.—The Law of Fatigue Applied to Crankshaft Failures: C. E. Stromeyer.—The Effect of Beam on the Speed of Hydro-Aeroplanes: L. Hope.—Notes on the Cross Curves and GZ Curves of Stability: E. F. Spanner.

### FRIDAY, MARCH 26.

ROYAL INSTITUTION, at 9.—Experiments in Slow Kathode Rays: Sir J. J. Thomson.

GEOLOGISTS' ASSOCIATION, at 8.—On the Structure of the Eastern Part of the Lake District: J. F. N. Green.

### SATURDAY, MARCH 27.

ROYAL INSTITUTION, at 3.—Recent Researches on Atoms and Ions: Sir J. J. Thomson.

## CONTENTS.

	PAGE
Science and Industry . . . . .	57
The Chemistry of Food Products. By E. F. A. . . . .	59
Applied Botany . . . . .	60
Lantern- and Micro-Projection . . . . .	61
Mathematical Works . . . . .	62
Our Bookshelf . . . . .	63
Letters to the Editor:—	
Supposed Horn-Sheaths of an Okapi.—Sir E. Ray	
Lancker, K. C. B., F.R.S. . . . .	64
The Spectra of Hydrogen and Helium.—T. R.	
Merton . . . . .	65
Musical Sand in China.—Joseph Offord . . . . .	65
The Green Flash.—Prof. W. Geoffrey Duffield . . . . .	66
Measurements of Medieval English Femora.—Prof.	
Karl Pearson, F.R.S. . . . .	66
The Principle of Similitude. By Lord Rayleigh,	
O.M., F.R.S. . . . .	66
Periscopes. (With Diagrams.) By S. D. Chalmers . . . . .	68
Oil of Vitriol as an Agent of "Culture." By T. . . . .	69
Prof. H. W. Lloyd Tanner, F.R.S. By R. H. P. . . . .	70
Notes . . . . .	71
Our Astronomical Column:—	
Mellish's Comet (1915a) . . . . .	75
Sun-spot and Magnetic Activity in 1913 . . . . .	75
Report of Mount Wilson Solar Observatory . . . . .	75
Annuaire Astronomique et Météorologique pour 1915 . . . . .	76
The Avezano Earthquake of January 13. (With	
Map.) By Dr. Charles Davison . . . . .	76
Sanitation in India. By J. W. W. S. . . . .	77
Ornithological Notes. By R. L. . . . .	78
Notes on Glass . . . . .	78
University and Educational Intelligence . . . . .	80
Societies and Academies . . . . .	81
Books Received . . . . .	83
Diary of Societies . . . . .	84

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.