

forces in the chemically simple bodies, on the basis of thermodynamics, being the third part of a remarkable memoir by J. Weinberg.—On the development of the ocean, by Prof. H. Trautschold. An attempt to prove that the ocean, at its first appearance, must have been very poor in chlorides as well as in carbonates and other salts.

SOCIETIES AND ACADEMIES.

PARIS.

Academy of Sciences, October 2.—M. Lœwy in the chair.—On the Serpent d'eau of the Rhône at Geneva, by M. H. Faye. This paper contains a description of a peculiar phenomenon seen at a weir near Geneva. It is a species of whirl in a vertical plane produced by a recoil of the water from the top of the barrier to a distance of 1.5 m. The axis of the whirl is horizontal, and parallel to the barrier. A delicate experiment performed by the late M. Colladon proved that this "serpent" exercises in its interior a considerable aspiration or suction. The phenomenon is complicated by the superposition of another whirl round a vertical axis in the neighbourhood of places where the barrier is interrupted, and the water is allowed a free fall. In these places conical tubes are formed whose apices descend to the bottom of the river, and into which air is noisily precipitated. Light objects—wood, paper—thrown into the whirlpool, descend, turning upon themselves with extraordinary speed. The whole phenomenon is very transitory and unstable. M. Faye does not share M. Colladon's view that the phenomenon is analogous to an ascending tornado. It has no analogy to a tornado, although it essentially requires a descending whirl for its production.—Observations of the comet Rordame-Quénisset, made with the great equatorial of the Bordeaux Observatory, by MM. G. Rayet, L. Picart, and F. Courty.—Values of the magnetic elements determined by the polar expedition of the Imperial Russian Geographical Society to the mouth of the Lena, by M. le Général A. de Tillo. The values for the magnetic elements at Sagastyr, as found by Captain Jurgens, are the following :—

Declination	4.7° E.
Dip	83.2°
Horizontal intensity	0.072°

G. Neumayer's map shows the greatest error in the declination, which it gives at 11.0° E.—Influence of the state of the surface of a platinum electrode upon its initial capacity of polarisation, by M. J. Colin. The results of M. Colin's experiments are in agreement with M. Blondlot's proposition that gases, and hydrogen in particular, are the cause of changes in the capacity of a platinum-water surface. If, in conformity with this hypothesis, the presence of hydrogen diminishes the capacity, the capacity of an electrode having served as kathode in the decomposition of water is very small; conversely, that of an electrode which has served as an anode, must be very great, since the oxygen set free must have eliminated the hydrogen with which the platinum might have been charged. Chromic acid, being a powerful oxidiser, must act in the same sense.—The fixation of iodine by starch, by M. G. Rouvier. The weights of starch remaining the same, as well as the other circumstances of the experiment, if the quantity of iodine added is increased, the quantity fixed rises at first. If the iodine is employed in sufficient quantity a compound is obtained whose percentage of iodine is always near 19.6, corresponding to the formula (C₆H₁₀O₅)₁₆I₅. A higher percentage was never obtained. If the weights of iodine and starch remain the same, as well as the other circumstances of the experiment, and the volume of the mixture increases, the quantity of iodine fixed diminishes, on condition that no more iodine is employed than is necessary to obtain the percentage 19.6. Otherwise, the volume may increase, and yet this percentage may be obtained.

SYDNEY.

Royal Society of New South Wales, August 2.—Prof. T. P. Anderson Stuart, President, in the chair.—The following papers were read:—Notes on the Binger diamond field, by Rev. J. Milne Curran.—On the occurrence of a chromite-bearing rock from the Pennant Hills Quarry, near Paramatta, by W. F. Smeeth, J. A. Watt, and Prof. T. W. E. David.—Note on the occurrence of barytes at the Five Dock Sandstone Quarry; and note on the occurrence of calcareous sandstone allied to Fontainebleau sandstone from Rock Lily, near Pittwater, by Prof. T. W. E. David.

NO. 1250, VOL. 48]

Linnean Society of New South Wales, August 30.—Prof. Haswell, Vice-President, in the chair.—The following papers were read:—Notes on Australian Coleoptera, with descriptions of new species, part xiv., by Rev. T. Blackburn.—Note on *Colina Brazieri*, Tryon, by Prof. Ralph Tate.—Descriptions of some new species of *Araeidae* from New South Wales, No. iii. by W. J. Rainbow.—Notes on aboriginal stone weapons and implements, No. xviii.—xx. by R. Etheridge, Junr.—Three additional types of womerah. or throwing-stick, by R. Etheridge, Jun.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

BOOKS.—A Manual of Telephony: W. H. Preece and A. J. Stubbs (Whittaker)—The Principles of Fitting: A Foreman Pattern Maker (Whittaker).—Dissections Illustrated: Part 2, C. G. Brodie, (Whittaker).—An Elementary Text-book of Coal Mining: R. Peel (Blackie).—Biologia Centrali-Americana, Part 3, Text and Plates, Archaeology: Part 4, Plates, Archaeology: A. P. Maudslayi (Porter).—Selections from the Philosophical and Poetical Works of Constance C. W. Naden: compiled by E. and E. Hughes (Bickers).—Our Reptiles and Batrachians, new edition: Dr. M. C. Cooke (W. H. Allen).—The Zambesi Basin and Nyassaland: D. J. Rankin (Blackwood).—Some Salient Points in the Science of the Earth: Sir J. W. Dawson (Hodder and Stoughton).—A Text-book of Physiology: 7th edition, Part 1: Dr. M. Foster (Macmillan).—The "Thumb" Prayer-book (Frowde).—Marine Boiler Management and Construction: C. E. Stromeier (Longmans).—An Elementary Text-book of Agricultural Botany: M. C. Potter (Methuen).—Pêches et Chasses Zoologiques: Marquis de Folin (Paris, Baillière).—Lectures on the Comparative Pathology of Inflammation: E. Metchnikoff, translated by F. A. Starling and Dr. E. H. Starling (K. Paul).—Machine Drawing: T. Jones and T. G. Jones (J. Heywood).

PAMPHLETS.—The Upper Hamilton and Portage Stages of Central and Eastern New York: C. L. Prosser.—The Climate of Chicago: H. A. Hazen (Washington).—Mikroskopische Vivisektion: Dr. A. Gruber (Freiburg).—Restoration of Coryphodons: O. C. Marsh.—Massachusetts Institute of Technology, a Register of Publications of the Institute, &c. 1862-93, 3rd edition (Boston).

SERIALS.—Gazzetta Chimica Italiana, Anno xxiii, 1893, Vol. 2, fasc. 9 (Palermo).—Engineering Magazine, October (New York).—Observatory, October (Taylor and Francis).—Popular Astronomy, September (Wesley).—Himmel und Erde, October (Berlin).—L'Astronomie, October (Paris).—Journal of the Chemical Society, October (Gurney and Jackson).—Journal of the Statistical Society, September (Stanford).

CONTENTS.

PAGE

The Correspondence of Berzelius and Liebig. By T. E. T.	561
Bacteriology for the Student	562
Our Book Shelf:—	
Whitehead: "Exploration of Mount Kina Balu, North Borneo"	564
Dodgson: "Pillow Problems. Curiosa Mathematica," Part II.	564
Woodward: "The A B C Five-Figure Logarithms"	564
Thomas: "Enunciations in Arithmetic, Algebra, Euclid, and Trigonometry"	564
Letters to the Editor:—	
Thoughts on the Bifurcation of the Sciences suggested by the Nottingham Meeting of the British Association.—Prof. Oliver J. Lodge, F.R.S.	564
British Association: Sectional Procedure.—L. C. M.	566
Orientation of Temples by the Pleiades.—R. G. Haliburton	566
Early Chinese Observations on Colour Adaptations.—Kumagusu Minakata	567
A Remarkable Meteor.—J. Lloyd Bozward; J. Lovel	567
Tertiary and Triassic Gastropoda of the Tyrol. By (BV) ²	567
Notes	569
Our Astronomical Column:—	
Astronomy at the World's Fair	573
The Aurora of July 15, 1893	573
New Variable Stars in Cygnus	573
Geographical Notes	574
Biology at the British Association	574
Conference of Delegates of Corresponding Societies	576
The Geological Society of America	578
Bleeding Bread. By M. C. Cooke	578
Forthcoming Scientific Books	579
Trilobites with Antennæ at Last! By H. M. Bernard	582
University and Educational Intelligence	583
Scientific Serials	583
Societies and Academies	584
Books, Pamphlets, and Serials Received	584