

formation of deposits of manganese ore.—Maxwell's theory of the viscosity of solids and certain features of its physical verification, by Carl Barus. These researches tend to show that Maxwell's theory is a version of Williamson's theory of etherification and of Clausius's theory of electrolysis. The transition made is from unstable groupings of atoms to unstable groupings of molecules. But while preserving minutely all the essentials of Maxwell's argument, the experiments here described go one step further, showing that viscosity is a phenomenon evoked by certain changes of molecular structure, the inherent nature of which is ultimately chemical.—On the origin of primary quartz in basalt, by Joseph P. Iddings. Here are described certain specimens of basalt occurring in the vicinity of the Rio Grande Cañon, which exhibit a remarkable number of porphyritic grains of quartz. A theory is proposed to account for the possible origin of this porphyritic quartz.—Mineralogical notes, by Geo. F. Kunz. Here are studied some specimens of phenacite and quartz pseudomorphs from Maine, a variety of transparent oligoclase and a cyanite from North Carolina, an apatite from New York, and an aragonite pseudomorph from Arizona.—An appendix of 42 pages contains a complete list of the late Asa Gray's writings, chronologically arranged and disposed in three categories: (1) scientific works and articles, 1834-83; (2) botanical notices and book reviews, 1841-87; (3) biographical sketches, obituaries, &c., 1842-88.

SOCIETIES AND ACADEMIES.

LONDON.

Entomological Society, September 5.—Dr. D. Sharp, President, in the chair.—Dr. Sharp mentioned that he had received, through Prof. Newton, a collection of Coleoptera from St. Kilda, consisting of *Carabus catenulatus* (1), *Nebria brevicollis* (12), *N. gyllenhalii* (3), *Calathus cistelooides* (20), *Pristonychus terricola* (1), *Pterostichus nigrita* (71), *Pt. niger* (31), *Amara aulica* (4), *Ocyptus olens* (1). The species being nearly all large Geodephaga, he thought probably that many other Coleoptera inhabited the island. He remarked that these specimens showed no signs of deauperation, but were scarcely distinguishable from ordinary English specimens.—Mr. South exhibited a melanic *Aplecta nebulosa* from Rotherham, bred with five others of ordinary form, and an albino of the same species from Devonshire; a very curious dark variety of *Plusia gamma*; two dark varieties of *Eubolia limilata* from Durham; *Dicro-rhampha consortana* from North Devon.—Mr. Champion exhibited *Harpalus cupreus*, *Leptusa testacea*, and *Cathormiocerus maritimus* from Sandown, Isle of Wight.—Mr. Elisha exhibited the following Microlepidoptera: *Eucæna atricapitana*, *turionana*, *juliana*, *derasana*, *capreana*, *pomonana*, taken off *Sorbus aucuparia*; *sodaliana*, *zephyrana*, *trigeminana*; also *Schiffermulleriella horridella*, *alpella*, *Juscoarella*, *therinella*, and *semidecandrella*, on *Cerastium tetrandrum*.—Mr. Jacoby exhibited three boxes of Coleoptera, collected partly by Mr. Frub-troffer, containing some rare *Cetoniade*, *Fausside*, &c.—Mr. E. Saunders exhibited *Amblytylus delicatus*, Perr., a new British bug, taken at Woking.—Mr. Jacoby mentioned that he had taken the larva of *Vanessa cardui* on a narrow white-leaved plant in his garden.—Mr. Enock mentioned that out of a batch of two males and six females of the Hessian Fly kept together, all six females had laid fertile eggs, so that each male must have impregnated more than one female.

PARIS.

Academy of Sciences, September 24.—M. Des Cloizeaux in the chair.—Generalization of a theorem of Gauss, by M. J. Bertrand. This theorem is thus expressed: Whatever be the attracting body, the mean value of the potential at the different points of a sphere is equal to the relative potential at the centre of the sphere. The demonstration supposes the sphere to be exterior to the attracting body, and the present paper deals with the theorem when this condition is not fulfilled, and it is shown that by substituting for the full sphere a spherical surface the theorem still holds good.—Complement to the theory of overfalls, by M. J. Boussinesq. Various applications are given to the theory established in the previous paper (*Comptes rendus*, September 17, p. 513) regarding the influence exercised on the discharge by the velocity of the current at the overfall.—Observations of Brooks's comet (August 7), and of Barnard's comet (September 2), made with the 0.38 m. equatorial at the Observatory of Bordeaux, by MM. G. Rayet and Courty. The

observations for Brooks's comet are for the period from September 5-17, those for Barnard's comet from September 11-17.—On the physiological action of *Hedwigia balsamifera*, by MM. E. Gaucher, Combemale, and Marestang. This plant, which has been classified and described by Descourtiz ("Flore des Antilles," iii. p. 263), belongs to the family of the Terebinthaceæ, and grows in the West Indies. The experiments on guinea-pigs and rabbits here described show that the alcoholic extract from the bark of stem and root is highly toxic, a dose of 0.161 gramme proving fatal. The aqueous extract is less toxic than the alcoholic, but both produce rapid and considerable lowering of the temperature, paralysis, and convulsions, spreading progressively from the lower part of the marrow to the rachidian bulb.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

Lessons in Elementary Physics, new edition: Balfour Stewart (Macmillan).—Ungdomsskrifter. Första Serien, Första Häftet: Carl von Linnés (Stockholm).—The Frog, 3rd edition: A. Milnes Marshall (Cornish, Manchester).—Primer of Micro-Petrology: W. Mawer (London).—Memory: F. W. Edridge-Green (Baillière).—Mathematischen Theorien der Planeten-Bewegungen: Dr. O. Dziobek (Barth, Leipzig).—Exanples in Physics: D. E. Jones (Macmillan).—A Text-book of Physiology, 5th edition, Part 1: M. Foster (Macmillan).—The Centre of the Central Sea: J. N. Emra (Kegan Paul).—Johannes Kepler und der Tellurisch-Kosmische Magnetismus: Dr. S. Günther (Wien).—Synopsis of the Vertebrate Fauna of the Puerco Series: E. D. Cope (Philadelphia).—Morphologisches Jahrbuch, 14 Band, 2 Heft: C. Gegenbaur (Leipzig).—Zeitschrift für Wissenschaftliche Zoologie, xlvii. Band, 1 Heft (Leipzig).—Geological Record for 1880-84: Topley and Sherborn (Taylor and Francis).—The Calendar of the University College of Wales, Aberystwyth, 1888-89 (Cornish, Manchester).—The Analyst's Laboratory Companion: A. E. Johnson (Churchill).—Memoirs and Proceedings of the Manchester Literary and Philosophical Society, 4th series, vol. 1 (Manchester).—Photography for All: W. J. Harrison (Hilffe).—Ornamental Water-fowl: Hon. Rose Hubbard (Simpkin).—Jahrbuch der Meteorologischen Beobachtungen der Wetterwarte der Magdeburgischen Zeitung, Jahrgang vi. 1887 (Magdeburg).—Proceedings and Transactions of the Royal Society of Canada for the Year 1887, vol. v. (Dawson, Montreal).—Catalogue of Variable Stars: S. C. Chandler (Lynn, Mass.).—Report on the Condition of Growing Crops, &c., August (Washington).—La Zoologia de Colón: J. I. de Armas (Habana).—Vierteljahrs-Wetter-Rundschau, Band i. Heft 3 und 4 (Mittler, Berlin).—Journal of Morphology, vol. ii. No. 1 (Ginn, Boston).—Mind, October (Williams and Norgate).—Journal of Anatomy and Physiology, October (Williams and Norgate).—The Geological Magazine, October (Trübner).

CONTENTS.

	PAGE
Determinants	537
Our Book Shelf:—	
Dawson: "The Geological History of Plants"	538
Letters to the Editor:—	
Prophetic Germs.—Prof. E. Ray Lankester, F.R.S.	539
A Shadow and Halo.—E. W. P.	540
Sonorous Sands.—A. R. Hunt	540
The Report of the Krakatão Committee of the Royal Society. I.	540
The British Association:—	
Section H.—Anthropology.—Opening Address by Lieut.-General Pitt-Rivers, D.C.L., F.R.S., F.G.S., F.S.A., President of the Section. II. (With Maps)	542
Section A.—Mathematical and Physical Science	546
The International Geological Congress. II.	548
Remarks on some of the more Recent Publications dealing with the Crystalline Schists. By Prof. J. Lehmann	549
The Stratigraphical Succession of the Cambrian Faunas in North America. By Prof. Chas. B. Walcott	551
Notes	552
Our Astronomical Column:—	
The Satellites of Mars	553
Total Lunar Eclipse of January 28	553
Photometric Observations of Asteroids	554
New Catalogue of Variable Stars	554
Minor Planet No. 275	554
Astronomical Phenomena for the Week 1888	
October 7-13	554
Geographical Notes	555
Electrical Notes	555
Notes on Meteorites. IV. (Illustrated.) By J. Norman Lockyer, F.R.S.	556
Scientific Serials	559
Societies and Academies	560
Books, Pamphlets, and Serials Received	560