

whether Ben Nevis, or any of the mountains of the district, offered a sufficient gathering-ground for any such glacier as that supposed in the freshwater theory, assuming the climate to have been such as would have admitted of a large lake in Glen Roy. He suggested the possibility of the openings through which the sea would gain access to the district having at the time of the last submergence been to some extent choked with ice, which thus checked the tidal action inland from the present coast; and thought that possibly both glaciers and the sea had together contributed towards the formation of the terraces. These, he observed, were by no means confined to Glen Roy itself, but were to be seen on a large scale, and at a lower level in the valley of the Speam, if not elsewhere.

PARIS

Academy of Sciences, March 11.—The following mathematical papers were read:—On flattened curves, by Mr. A. Cayley, characterized by M. Chasles; on the determination of the characteristics of the elementary system of cubics, by M. H. G. Zeuthen, also presented by M. Chasles; and on a change of variables, which renders certain equations with partial derivations of the second order integrable, by M. J. Boussinesq, presented by M. de Saint-Venant. M. de Saint-Venant also presented the continuation of his memoir on the hydrodynamics of water-courses.—Papers on auroras were communicated by Marshal Vaillant, M. Vinson, M. H. de Parville, and M. H. Tarry. M. Vinson's communication, and two extracts from letters read by Marshal Vaillant, related to a magnificent Aurora Australis observed at the Island of Bourbon (Réunion) on the night of February 4-5.—M. C. Sainte-Claire Deville presented a note by M. A. Houzeau on the proportion of ozone contained in the air of the country, and on its origin.—M. W. de Fonvielle presented a note in continuation of that read at the previous meeting on the means of protecting habitations against the perils of lightning strokes induced by gas-pipes, &c.—A report, by M. Coumbary, on the prediction of earthquakes, was read.—M. E. Becquerel presented a note by M. A. Cazin on the quantity of magnetism of electro-magnets.—M. Delaunay communicated a paper by M. A. M. Mayer describing some experiments, showing that the translation of a vibrating body gives origin to a wave of different length from that produced by the same vibrating body in a fixed position.—A note by M. H. Resal on the geometrical theory of the movement of the planets was also presented by M. Delaunay.—A paper was read by M. Kolb on the densities of hydrochloric acid; it contained some useful tables.—M. Blanchard presented a note by MM. P. Fischer and L. de Folin on their dredgings in the fosse of Cap Breton during the year 1871. These dredgings were made at depths extending from 24 to 250 fathoms. The authors indicate the principal species of animals obtained by them.—M. de Quatrefages communicated a paper by M. E. Perrier containing a summary of his anatomical investigation upon the earthworm, and M. Coste a note by M. G. Pouchet on changes of colour produced in prawns to accommodate them to the colour of surrounding objects. This change of colour is prevented by removing the eyes of the prawns.—M. A. Leymerie described some geological peculiarities in the lower Pyrenees.

March 18.—M. Serret presented some remarks on the note by Mr. Boussinesq, read at the last meeting of the Academy, and stated that M. Boussinesq was long since anticipated by Lacroix in the transformation proposed by him.—M. Serret also presented some remarks by M. E. Combesure, upon an analytical memoir by Legendre, on the integration of certain equations with partial differences.—M. de Saint-Venant read a continuation of his memoir on the hydrodynamics of water-courses.—M. H. Sainte-Claire Deville communicated a note by M. D. Gernez, on the absorption spectra of the vapours of sulphur, selenious acid, and hypochlorous acid. The author finds that coloured vapours in general absorb rays of irregularly variable refrangibility. Vapour of sulphur at first produces a gradual extinction of the spectrum, except the red part a little beyond line C of the solar spectrum; with an increase of temperature the rest of the spectrum reappears with very distinct bundles of lines in the violet and blue, and returning into the green. Vapour of selenious acids produces a very distinct system of absorption-bands in the violet and blue, and the absorption-spectrum of hypochlorous acid is identical with that of hypochloric and chlorous acids.—M. H. Tarry presented a note on the extraordinary extension of the zodiacal light, and its coincidence with the periodical reappearance

of auroras; and the aurora of the 4th of February was the subject of notes by MM. Denza, Mohn, and Coumbary.—M. Tarry and M. Denza also noticed the sand rains of the South of Europe.—M. C. Sainte-Claire Deville also presented some remarks on a note on the theory of auroras, read at the last meeting by Marshal Vaillant.—The papers on chemical subjects were particularly numerous. M. Chevreul read a memoir on a phenomenon in the crystallisation of a very concentrated saline solution.—A paper on the formation of chloral by MM. A. Wurtz and G. Vogt was read.—The question of the preservation of wine by the application of heat was further discussed by MM. de Vergnet-Lamotte and Pasteur.—M. Wurtz presented a note by MM. C. Friedel and R. D. Silva, on the isomers of trichlorhydrine and the reproduction of glycerine; a note by M. G. Bouchardat on the transformation of acetone into hydride of hexylene (dipropyle); and some facts with regard to diphenylamine by MM. C. Girard and G. de Laire.—M. C. Robin presented some observations by M. E. Ritter, on colourless bile, in which the author stated that in all cases where colourless bile occurred the liver presented more or less fatty degeneration.—A note was read by M. Duclaux on the influence of the cold of winter upon the seeds of plants.—M. Decaisne presented a note by M. E. Bornet, on the gonidia of Lichens, in which the author supports the curious opinion put forward by M. Schwendener, that the lichens are complex organisms, formed by the association of certain low algae with fungi or other plants. He regards the connection as one of parasitism.—A note was read by M. S. Meunier on the discovery of an abundant deposit of *Hemirhynchus Deshayesi* in the Calcaire Grossier of Puteaux.—M. C. Bernard presented a note by M. Ollier, on cutaneous grafts, and a note by M. Guibert on the beneficial results obtained by the combined action of morphine and chloroform in surgery.

BOOKS RECEIVED

ENGLISH.—Space and Vision: W. H. S. Monck (Dublin, McGee).—Practical Physiology: E. Lankester; 5th edition (Hardwicke).—Moth and Rust: by M. L. (W. Tegg).
 FOREIGN.—Corso di Geologia, Vol. i.: A. Stoppani (Milan, Bernardoni).

DIARY

SATURDAY, MARCH 30.
 CHEMICAL SOCIETY, at 8.—Anniversary Meeting.
 MONDAY, APRIL 1.
 ENTOMOLOGICAL SOCIETY, at 7.
 ROYAL INSTITUTION, at 2.—General Monthly Meeting.
 VICTORIA INSTITUTE, at 8.—On Force: Dr. M'Cann.
 TUESDAY, APRIL 2.
 SOCIETY OF BIBLICAL ARCHEOLOGY, at 8.30.—Notice of a Curious Myth respecting the Birth of Sargina, from the Assyrian Tablets containing an Account of his Life: H. F. Talbot, F.R.S.L.—The Assyrian verbs "Easu," to be, "Qabah," to say, and "Isu," to have, identified as variant forms of verbs having the same significations in the Hebrew language: R. Cull, F.S.A.—On the Origin of Semitic Civilisation, chiefly upon Philological Evidence: Rev. A. H. Sayce, M.A.
 WEDNESDAY, APRIL 3.
 SOCIETY OF ARTS, at 8.
 MICROSCOPICAL SOCIETY, at 8.
 PHARMACEUTICAL SOCIETY, at 8.
 THURSDAY, APRIL 4.
 LINNEAN SOCIETY, at 8.—On the Geographical Distribution of Compositæ: G. Bentham, President (concluded).
 CHEMICAL SOCIETY, at 8.

CONTENTS

	PAGE
THE IRON AND STEEL INSTITUTE	417
NICHOLSON ON THE GRAFTOLITES	418
OUR BOOK SHELF	419
LETTERS TO THE EDITOR:—	
Circumpolar Land.—H. H. HOWORTH	420
New Zealand Trees	422
Earthquakes in the Philippine Islands.—Dr. A. B. MEYER	422
Height of Auroras.—T. W. BACKHOUSE	422
Eccentricity of the Earth's Orbit.—J. ELLIS	422
Barometric Depression.—J. J. MURPHY, F.G.S.	422
FURTHER INVESTIGATIONS ON PLANETARY INFLUENCE UPON SOLAR ACTIVITY. By WARREN DE LA RUE, D.C.L., F.R.S.; BALFOUR STEWART, LL.D., F.R.S.; and BENJAMIN LOEWY, F.R.A.S.	423
RHINOCEROSSES. (With Illustrations.)	426
SCIENCE IN THE NAVY	428
NOTES	429
ANNUAL ADDRESS TO THE GEOLOGICAL SOCIETY OF LONDON, FEB. 16, 1872. By J. PRESTWICH, F.R.S.	431
PROF. SCHIAPARELLI'S RESEARCHES	433
SOCIETIES AND ACADEMIES	435
BOOKS RECEIVED	436
DIARY	436