

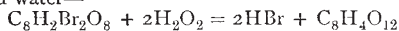
aspect, enclosing angular fragments of various schistose, volcanic, and limestone rocks; and in the latter Mr. Thomson detected the familiar aspect of carboniferous shells and corals. Having once obtained this clue, it was not difficult to find other beds at higher and lower levels, containing similar traces of carboniferous fossils, thus fixing these massive beds of sandstone as undoubtedly of Lower Permian age.—Mr. J. Young, F.G.S., read a joint paper by himself and Mr. David Robertson, F.G.S., on the Polyzoa and other minute organisms found in the carboniferous limestone shale at Hairmyres, East Kilbride.—Mr. D. Bell described some remarkable glacial mounds seen in the neighbourhood of Balquhider, on the line of railway between Callander and Killin. At Kings-Lubnaig and Callander. Mr. Bell next called attention to another series of mounds presenting similar features, which occur in the "side-glen" called "Glen Buckie," or the Calair Burn, that opens out southward from Balquhider and leads on to Glenfinlas in the Trossachs. He then referred to some points connected with the silting up of lakes, as presented by Loch Lubnaig and Loch Voil, which were once in all probability united.

BOSTON, U.S.

Natural History Society, March 4.—The president in the chair.—Mr. Bouvé introduced the subject of Dr. Genth's theory of the metamorphism of corundum, which has lately been published, and explained the meaning of the terms "metamorphism" and "pseudomorphism" as used in mineralogy.—Dr. T. Sterry Hunt then spoke on Dr. Genth's researches on corundum and its associated minerals. The speaker, while praising the industry and chemical skill displayed in the paper of Dr. Genth, insisted upon the importance of some clear definitions as to replacement, alteration, and association in the mineral kingdom, for the lack of which he conceived the learned author, in common with many others, had fallen into errors, and had been led to conclusions wholly untenable. He then explained the nature of pseudomorphs. He had not only carefully studied Dr. Genth's paper, but through the courtesy of that gentleman had examined with him the extensive collection of specimens upon which the conclusions announced by Dr. Genth had been based, and while bearing testimony to his accuracy and skill as a chemist and mineralogist, maintained that all of the phenomena in question were nothing more than examples of association and envelopment. All the facts regarding the corundum-bearing veins described by Dr. Genth have their parallels in the granitic veins with beryl and tourmaline, so common in Montalban, or White Mountain rocks of North America, and in the calcareous veinstones, with apatite, pyroxene, phlogopite, and graphite, of the Laurentian rocks, both of which classes of veins have elsewhere been described by the author.

PARIS

Academy of Sciences, Nov. 9.—M. Bertrand in the chair.—A telegraphic despatch from M. Janssen, announcing the safe arrival of the Transit of Venus Expedition at Nagasaki, was read.—M. Alph. de Candolle presented a copy of his Report for 1873-74, published as president of the Physical and Natural History Society of Geneva.—The following papers were read:—Researches on the dissociation of crystalline salts, by MM. P. A. Favre and C. A. Valson.—Method employed in seeking the substance the most efficacious against Phylloxera at the viticultural station of Cognac, by M. Max Cornu.—Mémorial on the secular inequalities of the major axes of the planetary orbits, by M. Emile Mathieu.—On some geometrical constructions applicable to mirrors and lenses, by M. J. Lissajous.—Preparation and properties of dioxymaleic acid, by M. E. Bourgoin. This acid is prepared by heating Kekulé's dibromomaleic acid with silver oxides and water—



The new acid is colourless crystalline, soluble in water and alcohol, hardly soluble in ether. It presents the triple character of a dibasic acid, a diatomic alcohol, and an unsaturated acid. Its isomer, "tricarboic acid," obtained from cyanoforn, is a tribasic acid.—Trial of comparison between the principal systems of aerial navigation, by M. Duroy de Briugnac.—On the volcanoes of the Isle of Java and their relation with the pentagonal ridge, by M. Alexis Perrey.—Studies relating to Phylloxera. Experiments made on branches of vines immersed in water holding various substances in solution, by M. A. Baudrimont.—A letter from M^{me}. Janssen was read, giving details of the effects of the recent typhoon at Hong Kong.—On a formula for transforming elliptic functions, by M. Brioschi.

—On the laws of the vibratory motion of tuning-forks; second note by M. E. Mercadier.—On electrostatic induction currents, by M. Neyreneuf.—Action of the electric current on the organs of sensation, by Dr. T. L. Phipson.—Reply to recent note by M. Gernez on supersaturation, by M. Lecoq de Boisbaudran.—New observations relating to the circular compass, by M. E. Duchemin.—Bisulphide of carbon and nitric oxide lamp; application to photography, by MM. B. Delachanal and A. Mermet. The photographic intensity of this lamp is stated to be superior to that of magnesium, to be twice as great as that of the oxyhydrogen light, and three times as great as the electric light. Unlike the electric and magnesium lights, the flame is steady and not liable to sudden extinction.—On the chemical nature of the substances which in the organism give the cross by polarisation, by MM. Dastre and Morat.—Note relating to the inundations of the valley of the Po in 1872, by M. Dausse.—At the beginning of the meeting M. Leverrier presented to the Academy chaps. xix. and xx. of his "Recherches Astronomiques," and a complete theory of the motions of Uranus.

Geographical Society, Nov. 4.—M. Delesse, president.—The Secretary announced that the Abbé Petitot, a missionary who has explored the Mackenzie River, has prepared a map of that little known region.—A letter was read from M. de Lesseps, who states that he has by no means given up the project of a Trans-Asiatic railway. His son has been exploring the Himalayas, and reports on the different routes by which the iron road could be carried.—M. Foucher de Careil presented the Society with a copy of his work entitled "Leibnitz and Peter the Great." The author points out three geographical discoveries which he declares are due to Leibnitz. He shows that it was by his advice that Peter the Great sent out the expedition under Behring, the discoverer of the strait which bears his name. The author also mentions three memoirs by Leibnitz on the determination of longitude according to the variation of the compass, a discovery with which Gauss was credited nearly a century later.—M. Simonin gave details of a journey which he made through the north of the United States, and especially in the region of the Great Lakes.

BOOKS AND PAMPHLETS RECEIVED

BRITISH.—A Course of Qualitative Chemical Analysis: Wm. G. Valentin. New edition (J. and A. Churchill).—Histology and Histo-Chemistry of Man: Heinrich Frey. Translated by Arthur E. J. Barker (J. and A. Churchill).—Post-Tertiary Entomostraca of Scotland: G. S. Brady, C.M.Z.S., Rev. H. W. Crosskey, F.G.S., and David Robertson, F.G.S. (Palaeontological Society).—Bacon's Thoughts, Philosophical and Medical: John Dowson, M.D. (H. K. Lewis).—Erasmus Darwin: John Dowson, M.D. (H. K. Lewis).—Journal of the Society of Telegraph Engineers: Major Frank Bolton and Geo. E. Preece (Spott).—Dental Pathology and Surgery: S. J. A. Salter, M.B., F.R.S. (Longmans).—Doctrine of Energy: D. D. Heath, M.A. (Longmans).—Manchester Historical Recorder (John Heywood, Manchester).

AMERICAN.—Report of the Commissioner of Agriculture, 1872 (Washington, U.S.).—Bulletin of the Buffalo Society of Natural Sciences (Warren, Johnson, and Co., Buffalo, U.S.).—Catalogue of Plants (Army Department, Washington, U.S.).—Report of Ornithological Specimens (Washington, U.S.).

FOREIGN.—Cours de Géologie Comparée: Stanislaus Meunier (Firmin Didot and Co.).—Experimentalphysik: Dr. Adolf F. Weinhold (Leipzig).—Degli Studi Fisici di Ambrogio Fusinieri (Foligno).—Über die Abhängigkeit des Klimatischen characters der Winde: Dr. W. Köppen (St. Petersburg).

CONTENTS

PAGE

THE ENGLISH ARCTIC EXPEDITION	61
OBSTACLES TO SCIENTIFIC RESEARCH	62
THE SECOND GERMAN ARCTIC EXPEDITION (<i>With Illustrations</i>)	63
DRAYSON'S "PROPER MOTION OF THE FIXED STARS," ETC.	66
OUR BOOK SHELF	67
LETTERS TO THE EDITOR:—	
Royal Agricultural Society and the Potato Disease.—Prof. W. T. THISELTON DYER, F.L.S.	67
Zoological Gardens, Regent's Park.—VIATOR; C. TRAILL	67
NOTE ON THE DEVELOPMENT OF THE COLUMELLA AGRIS IN THE AMPHIBIA. By Prof. T. H. HUXLEY, F.R.S.	68
ON MIRAGE, II. By Prof. J. D. EVERETT, D.C.L. (<i>With Illustration</i>)	69
ON THE GEOGRAPHICAL DISTRIBUTION OF THE FALLOW DEER IN PRESENT AND IN PAST TIME. By L. H. JEITTELLES.	71
THE LATE SIR WILLIAM JARDINE	74
LECTURES TO WOMEN ON PHYSICAL SCIENCE, II.	74
NOTES	75
SCIENTIFIC SERIALS	77
SOCIETIES AND ACADEMIES	78
BOOKS AND PAMPHLETS RECEIVED	80