

form is poured drop by drop on its surface.—Observations on a note by Prof. Respighi on the solar protuberances, by S. Tacchini. The author asserts that no dependence can be placed on the details of any drawings of the prominences except when made with a telescope of large aperture.—M. Trève, in a paper on the magnet, mentions some experiments from which he deduces that the “transformation” of a bar of soft iron into a magnet requires a mechanical work and a molecular action of a kind as yet unknown.—“On the compressibility of Air and Hydrogen at high temperature” by M. Amgat. The author asserts that up to 320° these gases follow the law of Mariotte. M. Berthelot followed, on the distribution of a base between several acids in solutions. “On the aptitude of certain gases to acquire persistent active properties under the influence of electricity” by M. Chabrier. The author finds that hydrogen when acted on by electricity possesses the power of uniting directly with the nitrogen of the air and of reducing newly precipitated oxide of silver, even after it has travelled some distance from the point where the electricity was allowed to act on it. M. G. Lechartier, in a paper on the reproduction of pyroxene and peridot, stated that he had succeeded in preparing these minerals by heating mixtures of their constituents.—M. P. Bert followed with “Experimental researches on the effects of changes of barometric pressure on the phenomena of life.” In a very interesting paper of great practical importance as regards miners and divers working under great pressure, the author cited the case of an English company who in a single year lost ten divers out of twenty-four three of these died suddenly on coming to the surface, *i.e.*, at the moment of sudden release from a high pressure and seven after several months of suffering from paralysis also died. The author concludes (from a series of experiments of cats and dogs) that up to five atmospheres two or three minutes should be allowed for the pressure to decrease, above that much more time must be allowed, and at nineteen atmospheres five minutes per atmosphere at least is required. If the pressure is allowed to decrease more rapidly than this death is certain.—“Comparative researches on the absorption of Gases by the blood: estimation of Hæmoglobin,” by M. N. Gréhaunt. The author describes a method of estimating Hæmoglobin by observing the quantity of carbonic oxide the blood will absorb. Application of Meteoric Metamorphism to the study of the black crust of grey meteorites, by M. S. Meunier.—M. A. Cheux describes a white Aurora Borealis observed at La Baumette near Angers on August 8, 1872, and says that great disturbance was observed on the sun on the morning of the 9th; he gives a view of the sun showing twenty-four spots.—Extracts from two letters from Messrs. Guiscardi and H. de Saussure relative to the late eruption of Vesuvius.—Appearance of a meteor in the department of Vienne, July 23, 1872 (extract of a letter from M. Daurée). This was the meteor of which portions fell in the Canton of St. Amand, Loir-et-Cher, Vienne is forty kilometres distant from the places where the two portions of the meteorite fell.—M. Tellier read a note on the supersaturation of water. Water may be cooled 3° or 4° below zero in a glass vessel and still remain liquid in which state it may be violently agitated but a very sudden blow often causes its solidification. M. J. Gerard exhibited photographs of the interior of an aquarium.

August 26.—M. Faye, president.—Determination of the mutual actions of Jupiter and Saturn to serve as a base for the respective theories of the two planets, by M. Le Verrier.—In a note on the action of carbon and iron on carbonic anhydride at a high temperature, by M. Dumas, the author refutes a statement lately made by M. Durmfaut that these bodies do not react unless hydrogen is present.—Mr. C. Peters announced the discovery of two new planets, 122 and 123. The planets are of the 11.5 and 12th magnitudes respectively.—New researches on the propyl compounds, by MM. Is. Pierre and E. Puchot.—In new experiments on spontaneous generation, by M. Donné, the author supports the well-known views of M. Pasteur.—Elementary theory of simple integrals and of their periods, by M. Max Marie.—On the physical constitution of the sun, by M. E. Vicaire. The author returns to the old theory of a comparatively cold nucleus which he regards as most probably liquid. He considers that the tremendous explosions of which the sun is the seat could not occur from the midst of a mass of disassociated gases.—Notes were received from M. Brachet relating to the improvement of microscopes; from M. Lanale, relating to aerial navigation; from M. Clarke, relating to cholera; from M. Roussett, relative to certain questions concerning medicine.—On the spherical representation of surfaces, by M. A. Bibancour.—

Letter from M. Gasparis, on a new mechanical theorem.—On ozone and hydric peroxide (*eau oxygénée*). M. F. Le Blanc sent a note relating to the paper by the Messrs. Thenard in No. 8 *Comptes Rendus*, 1872. The author states that in 1854 he discovered that ozone acted on water with the production of hydric peroxide.—Industrial employment of ozone for the destruction of the empyreumatic taste of whisky, and in the manufacture of vinegar, by M. Widemann. The author established a factory at Boston, U.S., where whisky was thus treated at the rate of 12,000 gallons per week. He also converted maize whisky into vinegar by diluting it with seven volumes of water, and then treating it in the same way.—On the divisions of a base between several acids in solution, dibasic acids, by M. Berthelot.—Action of cupric sulphate on normal urine, by M. Ramon de Luna.—M. P. Bert communicated a seventh note on the influence of change of barometric pressure on the phenomena of life.—On noctilucine, by Mr. T. L. Phipson. Noctilucine is the substance which is secreted by the various animals which are phosphorescent in the dark. The author believes that the same substance is secreted by certain plants (*Agaricus, Euphorbia, &c.*) and that it is also produced by the fermentation and decomposition of various vegetable and animal matters. The spectrum of this substance lies entirely between the lines E and F of the solar spectrum.—On the iodide of nitrogen, by Husson, *fil.*—M. Le Verrier presented observations of the August meteorites, from Greenwich, Lisbon, and at Volpeglino.—M. Chapelas announced, respecting the meteorites of the 8th, 9th, 10th, and 11th of August, that the mean hourly number was 33.5, a decrease of 6.4 on last year. The number for 1872 was only about one third of that for 1848.—A new communication from M. Pigeon, on the typhus of horned beasts, was submitted to the examination of M. Bouley.

PAMPHLETS RECEIVED.

ENGLISH.—The Lead and Zinc Mines of the Mendips: H. B. Woodward.—What Determines Molecular Motion, the Problem of Nature: J. Croll.—A Letter to the Marquis of Salisbury on the Public Health Bill: W. Child.—The Building and Ornamental Stones of Great Britain and Foreign Countries: E. Hull.—British Association for the Advancement of Science, Report of Committee on Science Lectures and Organisation, Past and Present.—Quarterly Magazine of the Brighton Grammar School, Part II.—Science and Art, a Sermon to the Memory of F. D. Maurice: L. D. Bevan.—Economy of Fuel in the Blast Furnaces for Smelting Iron: I. L. Bell.—Quarterly Weather Report of the Meteorological Office, January to March, 1871.—The Vomiting of Pregnancy: E. Munro.—On the use of the Stethoscope of Obstetrics: E. Munro.—A Puzzle in Rain and Air.—Proceedings of Geologists' Association, July.—Quarterly Journal of Education, July.—College of Physical Science, Newcastle-on-Tyne, Prospectus for Session 1872-73.—A Discussion of the Meteorology of the part of the Atlantic lying north of 30° N. lat. for the eleven days ending February 8, 1870.—Charts and Diagrams to accompany ditto.

AMERICAN AND COLONIAL.—Canadian Naturalist, July.—Indiana Journal of Medicine: T. M. Stevens, Vol. III, No. 2.—Abstract of Reports of the Surveys of the Geographical Operations of India for 1870-71.—Abstracts of Specifications of Patents (Victoria) applied for from 1854 to 1866, No. 1.—Metals: W. H. Archer.—Report of the Coalfields, Western Part of Victoria.—Reports of Surveyors and Registrars for Quarter ending March 11, 1872, Victoria.—Notes on the Post-Pliocene Geology of Canada: J. W. Dawson.—The Popular Science Monthly, Nos. 1-4.—The Australian Mechanic, No. 7, July, 1872.—Eighth Report of the Board of Visitors to the Observatory, Victoria.—Bulletin of the Museum of Comparative Zoology at Harvard.—Notes on the Ornithological Reconnaissance of Kansas, Wyoming, and Utah: J. A. Allen.

FOREIGN.—Zeitschrift für Biologie, Vol. viii., No. 2.—Bulletin de la Société d'Anthropologie de Paris.—Classification de 250 matières tannantes: M. Bernardin.—Memorie della Società degli spettroscopisti italiani.—Matériaux pour la faune Belge, 2^{me} part.—Myriopodes: F. Plateau.—Oversigt. af kongl. Vetenskaps Akademiens Forhandling, Nos. 3, 4, 7.—Atti della reale accademia dei Lincei, tom. 25, Ann. 25, 1871-72.—Verhandlungen des naturhistorischen Vereins, Riga, Vol. 1, 2, 1872.

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