memoir was based upon the examination of a large number of individuals belonging to seventy-nine species, chiefly from the Society's living collection, and contained a new arrangement of the group based principally upon the arrangement of the carotid arteries, and the presence or absence of the *ambiens* muscle, the furcula, and the oil-gland.—A communication was read from Mr. G. B. Sowerby, jun., giving the descriptions of five new species of shells from different localities.—A communication was read from Mr. E. P. Ramsay, wherein he described five new species of Australian birds, and of the egg of *Chamydodera maculata*. The birds described were—*Cypselus terræ-reginæ*, *Æluræedus maculosus*, *Ptilotis frenata*, *Eopsaltria inornata*, and *Rhipidura superciliosa*.

Royal Microscopical Society, Nov. 4.—Chas. Brooke, F.R.S., president, in the chair.—A paper by Dr. Jas. Fleming, On microscopical leaf-fungi from the Himalayas, was taken as read; it was illustrated by drawings, and many of the species described had been identified by Mr. M. C. Cooke as being the same as those known in Europe.—A paper by the Rev. W. H. Dallinger and Dr. Drysdale, in continuance of their series, On the life history of Monads, was read by the secretary. It minutely described a form repeatedly met with in macerations of the heads of codfish and salmon, and traced the development and reproduction in all stages, and was illustrated by drawings, which were enlarged upon the black board by Mr. Chas. Stewart. The observations had extended over several years, and had been conducted with the greatest care under various powers up to $\frac{1}{50}$ in. The results of experiments were also given, and conclusively showed that exposure to temperatures of 220° and 300° F. had failed to destroy the germs of these organisms. Some interesting living objects, stated to be larval forms of the common cockle, were exhibited and described by Mr. Wood; but the similarity of these forms to some which were exhibited at the previous meeting, and presumed to be *Bucephalus polymorphus*, having been pointed out by Mr. Stewart, an interesting discussion followed. *Perryia pulcherima*, Kitton, was exhibited under one of the Society's instruments.

PARIS

Academy of Sciences, Oct. 26.—M. Bertrand in the chair.—The following papers were read:—Note on Dr. Zenker's cometary theory, by M. Faye. The theory commented upon supposes that comets owe their movements in part to the attractive force of the sun and in part to the evolution of gases from the surface of the comet by the action of the sun's heat. The gases are supposed to consist of water vapour, and a hydrocarbon, and the motion produced by their rapid generation from the surface of the comet nearest to the sun is regarded as of an opposite nature to that produced by gravitation. M. Faye dissents from these views, and promises a further examination of the question in a future paper.—Note on the average ration of the French countryman, by M. Hervé Mangon. The author concludes, from a statistical inquiry into the subject, that the daily ration of the French labourer is not sufficiently high, and that for the welfare of the country this ration should be increased.—On the composition and physical properties of the products from coal-tar, by M. Dumas. The analyses and experiments were undertaken by the author with a view to test the insecticidal properties of coal-tar as applied to the destruction of Phylloxera. The hydrocarbons appear to have the most energetic action, the portion boiling below 110° causing death in five minutes.—Presentation of the geographical programme forming part of the new plan of studies for the colleges, by M. E. Levasseur.—On the analytical theory of Jupiter's satellites, by M. Souillart. The author had given, in a previous memoir, the formulæ for calculating the inequalities of longitude and of the *radii vectores* of the satellites. In the present memoir the problem has been solved for the latitudes and the secular equations of the longitudes.—Eighth note on the electric conductivity of bodies which are imperfect conductors, by M. Th. du Moncel.—On the fermentation of apples and pears, by MM. G. Lechartier and F. Bellamy. The experiments described have been carried on since 1872, and are considered by the authors as a veritable demonstration of Pasteur's deduction from his theory of fermentation, that "the formation of alcohol is due to the fact that the chemical and physical life of the fruit-cells is continued under new conditions in a similar manner to those of the cells of the ferment."—Absorption of gas by iron wire heated to redness and thinned by immersion in dilute sulphuric acid during the operations of wire-drawing, by M. D. Sévoz. The author has not yet determined the nature of this gas.—On the isomerism of acetylene perbromide and the hydride of tetrabrominated ethylene, by M. E. Bourgoin. The last-named substance is obtained by the action of bromine and water on bibromsuccinic acid, and is described as a crystalline substance melting at 54·5°. Perbromide of acetylene is a liquid formed when acetylene is passed into bromine heated to 50° under a layer of water. The author considers acetylene perbromide to be an additive compound of the acetylene series, while the other substance is derived by substitution from ethylene or ethyl hydride.—Researches on the decomposition of certain salts by water; second note, by M. A. Ditte. The author has now studied the decomposition bismuthous and bismuthic nitrates and of antimonious chloride.—On electro-magnets; a note by M. Deleuil. This paper refers to the use of electro instead of ordinary magnets for removing iron from the paste employed in the manufacture of porcelain.—Researches on the fleece of merino sheep, by M. A. Sanson.

Geographical Society, Oct. 21.—President, M. Delesse.—Dr. Hamy communicated the result of his researches on the geographical distribution of the human race in Eastern Melanesia. He showed that the penetration of the Papuan populations by the Polynesians is much less exceptional than has been hitherto believed. It has been long known that there has been a considerable immigration of Tongans into Viti. Ouvea, in the Loyalty Islands, was invaded at the beginning of this century by Kanakes from the Wallis Isles, the eastern coast of New Caledonia containing a very large number of Melano-Polynesian Metis, the yellow variety of M. Bougarel, who perhaps found them on Isabella Island, in the Solomon group. The recent discoveries of Captain Moresby show the Polynesians strongly established in the southern extremity of New Guinea. According to M. J. Verreau they had penetrated as far as Australia, where a small tribe having all the characteristics of Polynesians has been established for about thirty years in the neighbourhood of Cape Capricorn.

BOOKS AND PAMPHLETS RECEIVED

BRITISH.—Tables for Travellers: Admiral Bethune (W. Blackwood).—Out of Doors: Rev. J. G. Wood, M.A., F.L.S. (Longmans).—Charts of Meteorological Data (Meteorological Office).—Remarks on Charts of Meteorological Data (Meteorological Office).—Insects Abroad: Rev. J. G. Wood, M.A., F.L.S. (Longmans).—The Races of Mankind, vol. ii.: Robert Brown, M.A. (Cassell, Petter, and Co.)—The Earth as Modified by Human Action: G. P. Marsh (Sampson Low and Co.)—The German Arctic Expedition of 1873–74: Capt. Koldeway (Sampson Low and Co.)—The Sheep: W. C. Spooner, M.R.V.C. (Lockwood and Co.)—A Year's Botany: Frances Anna Kitchner (Rivingtons).—The Safe Use of Steam. By an Engineer (Lockwood and Co.)—Observations of Magnetic Declination: J. A. Brown, F.R.S. (H. S. King and Co.)—The Elements of Psychology: Robert Jardine (Macmillan and Co.)—Winter and Spring on the Shores of the Mediterranean: James H. Bennet (J. and A. Churchill).—Physiological Chemistry: S. W. Moore (Smith, Elder, and Co.)—Philosophy of History: Hugh Doherty, M.D. (Trübner and Co.)

AMERICAN.—Proceedings of the Boston Society of Natural History, vol. xvi. Part IV.—Memoirs of the Boston Society of Natural History, vol. ii. No. 3.—Address of Ex-President Joseph Lovering, American Institute for the Advancement of Science at Hartford.

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