well as experimental facts show that epilepsy has no special seat in the brain, but that all parts of the nervous system, central or peripheral, may give rise to it.—The meadows in the dry summer of 1892, by M. A. Chatin.—Absolute positions and proper motions of circumpolar stars, by M. F. Gonnessiat.—On a problem of analysis involved in the equations of dynamics, by M. R. Liouville.—On a recurring series of pentagons inscribed in the same general curve of the third order, which can be constructed with the sole help of the straight-edge, by M. Paul Serret.—On the calorific distribution of the heat of the sun at the surface of the northern and southern hemispheres of the terrestrial globe, by M. le Goarant de Tromelin. It is sometimes thought that the fact of the sun being eight days longer in the northern hemisphere than in the southern, is the principal cause of the inequality of the distribution of heat in the two hemispheres. It can, however, be shown that the quantities of heat received by two symmetrical elements of the earth's surface, or by two caps symmetrical with respect to the earth's centre, are the same during the durations of the earth's journey comprised between two pairs of opposite vectors. Hence the total heat received by the northern hemisphere during spring and summer is equal to that received by the southern hemisphere during autumn and winter. The true cause of the difference of mean annual temperature in the two hemispheres lies in the difference of loss by radiation. By the law of cooling bodies, if two bodies have the same mean temperature, but different extremes, the one with the greatest extremes will lose most heat by radiation. Thus the southern hemisphere, which is nearer the sun in its summer and further away in its winter than the northern, will lose the greater quantity of heat.—Theory of a condenser interposed in the secondary circuit of a transformer, by M. Désiré Korda.—On the thermal variation of the electrical resistance of mercury, by M. Ch. Ed. Guillaume. The relation between temperature and conductivity was determined by comparing the resistance of a mercury standard of about one ohm at different temperatures with another standard maintained at a constant temperature, with a special arrangement to eliminate the resistances of the contacts. The formula deduced was—

$$\rho_T = \rho_0(1 + 0{\cdot}00088879T + 0{\cdot}00000102222T^2),$$

and the value of the standard mercury ohm—

$$106{\cdot}3\,\frac{\text{cm.}}{(\text{microlitre})^{\frac{1}{3}}}\text{ Hg at } 0°.$$

—On a ptomaine obtained from a cultivation of *Micrococcus tetragenus*, by M. A. B. Griffiths. This Micrococcus, found associated with human phthisis, gives rise to a ptomaine if cultivated on peptonised gelatine for several days. This ptomaine is a white solid, crystallizing in prismatic needles. It is soluble in water, giving a feeble alkaline reaction. It forms a chlorohydrate, a chloroaurate, and a chloroplatinate, all crystallizable. Nessler's reagent gives a green precipitate, tannic acid a brown one, slightly soluble. The formula appears to be $C_5H_6NO_2$. It is a poison, and produces death in thirty-six hours. It is undoubtedly the product of the decomposition of the albumin by the microbe.—On echinochrome, a respiratory pigment, by M. A. B. Griffiths. Mr. McMunn discovered a brown pigment in the perivisceral fluid of certain echinoderms in 1883. This was separated by desiccating the fluid and dissolving out by chloroform. The formula of echinochrome is $C_{102}H_{99}N_{12}FeS_2O_{12}$. It serves a purpose in the body of the echinoderm analogous to that of hæmoglobine in the human body, but is not so highly developed as the latter. The respiratory pigments in the lower animals not only carry oxygen to the tissues, but also retain oxygen in combination till taken up by the cellules. Hence echinochrome, like hæmocyanine, chlorocruorine, and similar bodies, is more stable than hæmoglobine.—Physiology of the pancreas, experimental dissociation of the external and internal secretions of the glands, by M. J. Thiroloix.—Influence of some deleterious gases on the progress of anthrax infection, by MM. A. Charrin and H. Roger.—Contribution towards the aseptic method in hypodermic therapeutics, by M. Barthélémy.—On the construction of a luminous fountain with automatically variable colours, by M. G. Trouvé.

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

BOOKS.—The Locomotive Engine and its Development: C. E. Stretton (Lockwood).—Universal Atlas, Part 18 (Cassell).—Life Histories of North American Birds: C. Bendire (Washington).—Traité Encyclopédique de Photographie: C. Fabre; Premier Supplément (Paris, Gauthier-Villars).—VI. Jahresbericht (1890) der Ornithologischen Beobachtungstationen im Königreiche Sachsen: A. B. Meyer u. F. Helm (Berlin, Friedländer).—Elementary Physiography: R. A. Gregory (Hughes).—Dynamometers and the Measurement of Power: J. J. Flather (New York, Wiley).—A Manual of Veterinary Physiology: Veterinary Captain F. Smith (Baillière).—Australische Reise: R. v. Lendenfeld (Innsbruck, Wagner).—Medical Microscopy: Dr. F. J. Wethered (Lewis).—A Dictionary of Terms used in Medicine, &c.: R. D. Hoblyn. 12th edition, revised by J. A. P. Price (Whittaker).—The Sea and the Rod: C. T. Paske and Dr. G. Aflalo (Chapman and Hall).—A Lecture Course in Elementary Chemistry: H. T. Lilley (Simpkin).—Modern Science in Bible Lands, popular edition, revised: Sir J. W. Dawson (Hodder).—A Handy Book for Brewers: H. E. Wright (Lockwood).—Reports from the Laboratory of the Royal College of Physicians, Edinburgh, vol. iv. (Pentland).—The Fauna and Flora of Gloucestershire: C. A. Witchell and W. B. Strugnell (Stroud, James).—Observations of Double Stars made at the U.S. Naval Observatory, Part 2, 1880-91: Prof. A. Hall (Washington).—Experimental Evolution: Dr. H. de Varigny (Macmillan).—Oriental Cicadidæ. Part 6: W. L. Distant (London).—Paraguay: Dr. E. de B. la Dardye (Philip).—Advanced Building Construction (Longmans).—Transactions and Proceedings of the New Zealand Institute, 1891, vol. xxiv. (Wellington).—Sea-sickness, Voyaging for Health, Health Resorts: Dr. T. Dutton. 3rd edition (Kimpton).—Bulles de Savon: C. V. Boys, traduit de l'Anglais par Ch. Ed. Guillaume (Paris, Gauthier-Villars).—Up the Niger: Capt. A. F. Mockler-Ferryman (Philip).—Earth Burial and Cremation: A. G. Cobb (Putnam).—A Vertebrate Fauna of Lakeland: Rev. H. A. Macpherson (Edinburgh, Douglas).—Contributions to Horticultural Literature: W. Paul (Waltham Cross, Paul).

PAMPHLETS.—Music in its Relation to the Intellect and the Emotions: J. Stainer (Novello).—Sadi Carnot et la Science de l'Énergie: M. G. Mouret (Paris, J. Carré).—Appendix to the Catalogue of the Flora of Nebraska: H. J. Webber.—Maryland's Attitude in the Struggle for Canada (Baltimore).—Memorial of J. Lovering (Cambridge, Massachusetts, Wilson).

SERIALS.—Quarterly Journal of Microscopical Science, August (Churchill).—Journal of the Royal Microscopical Society, August (Williams and Norgate).—Transactions of the Academy of Science of St. Louis, vol. v., Nos. 3 and 4 (St. Louis).—Notes from the Leyden Museum, vol. xiv. Nos. 3 and 4 (Leyden, Brill).—Economic Journal, No. 7 (Macmillan).—Journal of Morphology, vol. vi. Nos. 1 and 2 (Boston, Ginn).

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