

(*ibid.*, 49, 21; 1755). Edward and his two sons, who all presented a similar skin condition, visited Germany and France, where they were described under the name of "Porcupine Men" by Blumenbach, Autenrieth and Tilesius. Other members of the family similarly affected were afterwards described by Elliotson in 1831, Pettigrew in 1834 (in the subject of this note) and by Pickells in 1851. Further details concerning the Lambert family, including a reproduction of the figure published in 1802 by Tilesius, will be found in E. A. Cockayne's "Inherited Anomalies of the Skin and its Appendages" (1933), pp. 182-85, from which most of the above information is taken.

The Franklin Institute

At the beginning of the nineteenth century, Philadelphia was the centre of scientific culture in the United States. The American Philosophical Society had been founded in 1769, with Franklin as its first president, while in 1814 and 1824 respectively, the Academy of Natural Sciences of Philadelphia, and the Franklin Institute of Pennsylvania were inaugurated. The latter society had its birth at a meeting held in the County Court House on February 5, 1824, when it was resolved that "it is expedient to form a Society for the promotion of the useful arts in Philadelphia, by extending a knowledge of Mechanical Science to its members and others at a cheap rate". It was also resolved to attain this object by means of lectures, the formation of collections and of a library and the award of premiums for inventions. The Institute held its first public exhibition in October 1824, its first hall was erected in 1825, and the following year the *Franklin Journal* was established. Two years later this was renamed the *Journal of the Franklin Institute*, by which title it has since been known.

From the first the *Journal* contained original contributions, reprints from other periodicals, reports of committees and notices of American inventions. The annual report of the Board of Managers submitted in January 1834 was signed by Alex. Dallas Bache. At that time there were 1,659 members, and "the condition of the Institution was one well deserving mutual congratulations. From a small beginning, in an attempt to diffuse useful knowledge, to promote practical science and the mechanic arts, the institution had grown to be respected by her members and the public". The report refers to courses of lectures by Prof. J. K. Mitchell on chemistry, by Prof. W. R. Johnson on natural philosophy and by Gouverneur Emerson, M.D., on meteorology. Thanks were expressed to these lecturers and also "to J. Millington, Esq., late Professor of Natural Philosophy in the Royal Institution of London who is engaged on a most able series of lectures on astronomy". The society at that time was investigating the principles of water wheels, inquiring into the causes of the numerous explosion of boilers in American steam-boats, and the *Journal* for 1833 and 1834 contains reports of various individuals into the system of weights and measures of the United States, England and France. Its important work in this direction was recognised by the Pennsylvanian Government, and on the instructions of the House of Representatives the secretary of the Commonwealth had forwarded to the Institute a draft of a bill relating to weights and measures for its consideration.

Societies and Academies

LONDON

Royal Society, January 25. A. ZOOND and J. EYRE. Studies in reptilian colour response. (1) The bionomics and physiology of the pigmentary activity of the chameleon. In strong diffuse daylight chameleons become dark on a black background and pale on a white one. Blind animals darken in the light. This response depends upon the integrity of spinal reflex arcs. The time relations of these responses have been determined. The threshold for the retinal photoreceptors is lower than for the dermal ones. In weak light the white background response is reversed, the animals becoming dark. Low temperatures above 0° C. have no effect upon the normal response of chameleons to darkness. A theory of nervous co-ordination is developed. It is suggested that the 'daily rhythm' of colour changes may be interpreted in terms of the white background response in strong and weak light, without reference to temperature. A. WOLSKY and J. S. HUXLEY: The structure and development of normal and mutant eyes in *Gammarus chevreuxi*. The eyes of 'eye-colour mutants' ('red', 'no-white', etc.) differ from normals only in pigmentation and not in structure. The eyes of eye-structure mutants ('albino', 'colourless') are markedly deficient as compared with normal. For the development of normal eyes, the results of Schatz (1929) are confirmed. The differentiation and growth of the optic tract (not previously studied in *Gammarus*) is centrifugal in time: the medulla externa and lamina ganglionaris are at first small, but eventually constitute a large and distinct protuberance. In the eye-structure mutants the adult optic tract is comparable with the early embryonic stage of normals. The structure of albino and colourless eyes can be formally explained in terms of (a) a rate-gene causing a delay in differentiation of the organs (optic tract and eye-mass) derived from the primary optic disc; (b) a graded distribution of the inhibitory effect caused by this delay; and (c) possibly, the consequent absence of a formative stimulus normally exerted by the optic tract upon the differentiation of the eye proper. J. NEEDHAM, C. H. WADDINGTON, and DOROTHY M. NEEDHAM: Physico-chemical experiments on the amphibian organiser. The induction of a secondary embryonic axis in amphibian gastrulae can be accomplished by the implantation of (a) cell-free extracts of the neurula, (b) ether and petrol-ether extracts of the neurula, (c) adult amphibian tissues, (d) ether extracts of adult amphibian viscera. A distinction is made between two factors in induction; the production of an embryonic axis as such, which is called evocation; and the determination of the regional, for example, antero-posterior, character of that axis, which is called individuation. The evocator is probably a definite chemical substance soluble in ether and petrol-ether.

PARIS

Academy of Sciences, December 18¹ (*C.R.*, 197, 1545-1705). LOUIS CARTAN: The displacement in an electrostatic field of magneto-electronic spirals. N. THON: The direct determination of the number of active centres on a crystalline metallic cathode. E. GUILLERMET: The electrolysis of cupric chloride in methyl alcohol solution. The primary reaction appears to be production of cuprous chloride and chlorine. R. DE MALLEMANN and H. COURTHLOT: Elliptical

reflection at normal incidence on a transparent anisotropic body. The superficial double refraction of Iceland spar. ANTOINE GOLDET: The thermal variation of the magnetic double refraction of nitrobenzene, benzene and carbon disulphide. The experimental results are given as curves, and are compared with those predicted by the theories of Langevin and of R. de Mallemann. TSAI BELLING: The magnetic double refraction of gaseous oxygen. Experiments carried out with a field of 45,000 gauss show that compressed oxygen under the action of the magnetic field clearly acquires a negative double refraction proportional to the pressure. J. J. TRILLAT: Study of the fatty esters of cellulose by means of the X-rays. The reticular distances are a linear function of the number of carbon atoms in the esterifying acid. HUBERT GARRIGUE: The activity of materials exposed to the natural electric field. G. GAMOW and S. ROSENBLUM: The effective diameters of the radioactive nuclei. F. JOLIOT: An experimental proof of the annihilation of positive electrons. The experiments show that when positive electrons are absorbed by matter, there is observed an emission of photons of energy about 0.5×10^6 ev. Hence it is concluded that the process of annihilation of positive electrons imagined by Dirac is confirmed by these experiments. FRANCIS PERRIN: The possibility of the emission of neutral particles of intrinsic mass zero in β radioactivity. W. M. ELSASSER and K. GUGGENHEIMER: The anomalies in the proportion of the elements and on the origin of the radioactive bodies. JEAN THIBAUD: The annihilation of positrons in contact with matter and the resulting radiation. PAUL MONDAIN MONVAL and Mlle. HÉLÈNE SCHLEGEL: The partially miscible pair aniline-water. Study of the inversion of density of the two layers: below 77°C . the aniline layer is the lower, but above this temperature it is the layer rich in aniline which is uppermost. RENÉ PÂRIS: The ternary magnesium-zinc-calcium alloys. PIERRE BRUN: The volume variations of mixtures of water, ethyl alcohol, ether. Additional evidence is given in support of the view previously put forward by the author that the idea of continuity could be extended to the case of the miscibility of liquids. V. AUGER: The existence of pyro- and meta-arsenic acids. Contrary to the views of Rosenheim and Antelman, the author holds that ortho-, pyro- and meta-arsenic acids have so far not been obtained. ANDRÉ MORETTE: The action of vanadium tetrachloride upon some anhydrous chlorides. HENRI MOUREU and PAUL ROCQUET: The product resulting from the action of ammonia on phosphorus pentachloride. The products of the reaction were ammonium chloride, separated by extraction with liquid ammonia, and phosphorus diimidoamide, $\text{P}(\text{NH})_2\text{NH}_2$. This gives phospham, PN_2H , on prolonged heating in a vacuum at 350° . G. GIRE: Basic sulphate of nickel. L. PIAUX: The Raman spectra of some cyclanones. Mlle. DARMON: The isomerisation of the methyl and ethyl ethers of phenylglycide. G. LEJEUNE: Some tartromanganic salts. R. PAUL: δ -Oxyvaleraldehyde. WIEMANN: The duality of Charon's dipropenylglycol. Preparation of one of the constituents in the crystallised state. R. CORNUBERT and M. DE DEMO: The possible existence of three $\alpha\alpha'$ -dibenzylcyclohexanones. ANTOINE WILLEMART: Isomeric transformations of the hydrocarbons $\text{C}_{45}\text{H}_{30}$, isomers of the 1:3:1':3'-tetraphenyl-1:1'-rubeses. Description of a new isomer. Splitting up by oxidation. CHARLES

PRÉVOST: The halogen-silver complexes of the carboxylic acids. C. ARAMBOURG: The pre-Tertiary formations of the western border of Lake Rodolphe (Eastern Africa). Mlle. D. LE MATTRE: The age of the Chaudfond (Maine-et-Loire) limestone. G. BORGNIÉZ: The possibility of the existence of periods with a desert climate in the central region of the Belgian Congo. MAURICE BLUMENTHAL: The autochthony of the Penibetic in the province of Cadix (Andalusia). ROBERT LAFFITTE: The continental formations of the Tertiary of Aurès (Algeria). A. VINOGRADOV: The elementary chemical composition of living organisms and the periodic system of the chemical elements. Discussion of the relation between the quantity of atoms of a chemical element found in living material and the atomic number of this element. A. GRUVEL and W. BESNARD: Researches on the nature of the sea floor of the western coast of Morocco between Cape Cantin and Cape Ghir. HENRY HUBERT: The aerial currents in Cochinchina. C. E. BRAZIER and EBLÉ: The temperature of the air in the neighbourhood of the soil. The ordinary method of taking ground temperature is shown to be defective: details of an improved method are given. P. IDRAC: The influence of the *Mistral* and of the east wind on the temperature of the submarine layers on the Côte d'Azur. R. GUIZONNIER: Phase of the semi-diurnal component of the gradient of electric potential. G. GRENET: The electrical conductivity of the air at Mont-Dore in August 1933. The mean electrical conductivity observed was about double that usually observed elsewhere. The altitude is insufficient to explain this result and the most probable cause would appear to be the hot springs near by and the enclosed form of the valley. G. DAUZÈRE: The spots most frequently struck by lightning in the Department of Aveyron. PIERRE CHOUARD: The intervention of the epidermis in the formation of small bulbs on the green leaves of the Liliaceae. H. COLIN and E. GUÉGUEN: The floridoside in the Florideae. Floridoside, containing a molecule of glycerol and one of α -galactose, previously isolated from *Rhodymenia palmata*, is now proved to be present in a large number of Algæ. MME. HUREL-PY: The possibility of dehydrating the vacuoles of the pollen of *Nicotiana glauca*. E. and H. BIANCANI and A. DOGNON: The intervention of thermal phenomena in the biological action of ultra-sounds. E. LEDERER: The carotenoids of a red yeast, *Torula rubra*. Four substances are present in this colouring matter, two of which have been isolated; one is β -carotene, the other a new pigment, torulene. E. FLEURENT: The genetics of wheat and the process of bread-making. M. LEMOIGNE and R. DESVEAUX: The influence of the origin of the microbial strains on the balance of nitrogen capable of determination by Kjeldahl's method in aerobic cultures. CH. HRUŠKA: Vaccination against the *rouget* of pigs with the non-attenuated bacillus. G. RAMON and Mlle. B. ERBER: The presence of the diphtheric antitoxin, of natural origin, in the monkey. MAX ARON: The presence, in the urine of subjects with malignant tumour, of a principle capable of acting on the suprarenal cortex.

¹ Continued from p. 151.

MELBOURNE

Royal Society of Victoria, October 12. GERALD F. HILL: Australian hemitermes (Isoptera), with descriptions of new species and hitherto undescribed

castes. This paper contains descriptions of the winged adults of *Hamitermes neogermanus*, Hill, and *H. meridionalis*, Froggatt, which were previously known from sterile castes only, and of eight new species. W. J. HARRIS and D. E. THOMAS: Geological structure of the Lower Ordovician rocks of eastern Talbot, Victoria. The paper deals with the eastern half of the county of Talbot in central Victoria, extending from Castlemaine and Maldon in the north to Kyneton and Daylesford in the south. The physiography of the area is discussed, particularly as modified by the lava flows usually referred to as the Newer Basalt. A large number of new graptolite localities are recorded and the graptolite zones of the Lower Ordovician rocks have been mapped over about 1,000 square miles. The main structural lines in the area trend a little to the west of north and an anticlinorium extending from Maldon to Dean occurs in the west with its eastern limb truncated by the Muckleford fault. East of this is the Guildford-Bullarto synclinorium, and the Chewton-Lyonville anticlinorium, and, after a smaller intervening synclinorium, the Taradale-Lauriston anticlinorium. The relation of gold occurrences to geological structure is briefly discussed.

Forthcoming Events

[Meetings marked with an asterisk are open to the public.]

Monday, February 5

UNIVERSITY COLLEGE, LONDON, at 5.30.—L. W. G. Malcolm: "Africa, Past and Present".*

SOCIETY OF ENGINEERS, at 6—(in the rooms of the Geological Society, Burlington House, Piccadilly, W.1). Inaugural meeting. A. M. A. Struben: Presidential Address.

ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—Lieut.-Col. E. R. L. Peake: "The Rhodesia-Congo Boundary".

Wednesday, February 7

EAST LONDON COLLEGE, at 5.30.—Prof. F. E. Fritsch: "Certain Aspects of Algal Biology" (Four succeeding lectures).*

ROYAL SOCIETY OF ARTS, at 8.—Robert R. Hyde: "The Human Element in Industry".

Friday, February 9

UNIVERSITY COLLEGE, LONDON, at 5.30.—Prof. Herbert Freundlich: "Some Aspects of Colloid Science" (succeeding lectures on February 16, 23, March 9 and 16).

ROYAL ASTRONOMICAL SOCIETY, at 5.—Annual General Meeting. Prof. F. J. M. Stratton: "International Co-operation in Astronomy—a Chapter in Astronomical History" (Presidential Address).

ROYAL INSTITUTION, at 9.—Sir J. J. Thomson: "Reminiscences of Physics and Physicists".

Official Publications Received

GREAT BRITAIN AND IRELAND

Lecture on Alchemists in Art and Literature. By Richard B. Pilcher. Pp. 54. (London: Institute of Chemistry.)
British Industries Fair, 1934, Olympia and White City, London, February 19th to March 2nd. Organised by the Department of Overseas Trade. Special Overseas Advance edition. Pp. xvi+544+Ads. xii+Ads. 184. (London: Department of Overseas Trade.) 1s.
Proceedings of the Royal Society of Edinburgh. Vol. 53, Part 4, No. 23: The Mathematical Representation of the Energy Levels of the Secondary Spectrum of Hydrogen. By Dr. Ian Sandeman. Pp. 347-353. (Edinburgh: Robert Grant and Son; London: Williams and Norgate, Ltd.) 9d.

OTHER COUNTRIES

Scientific Papers of the Institute of Physical and Chemical Research. Nos. 468-477: On the Sorption of Hydrogen by Reduced Nickel. 1: Determination of the Quantities of Hydrogen adsorbed by and diffused in Pure and Spoiled Reduced Nickel, and Determination of the Isothermal Adsorption Lines and the Heat of Adsorption, by Shun-ichiro Iijima; Studies on Dietary Requirements for Lactation, 1: Failure of Lactation on an apparently complete Synthetic Diet, by Waro Nakahara and Fumito Inukai; Growth of Transplanted Tumors in Albino Rats maintained on a Diet with Protein Hydrolysates as substitute for Protein, by Umetaro Suzuki, Waro Nakahara, Nabetaro Hashimoto and Ryosuke Ikeda; The Influence of Alcohol on the Growth of Transplanted Tumors in Rats, by Umetaro Suzuki, Waro Nakahara, Nabetaro Hashimoto and Ryosuke Ikeda; The Constitution of Resorcin and Acetylacetone viewed from the Raman Effect, by Taro Hayashi; Studies on Thermo-luminescence Spectra of Fluorites, Part 2: Division of the Bands in Thermo-luminescence Spectrum of Fluorite into Two Groups, by Eiichi Iwase; On the Sorption of Hydrogen by Reduced Nickel, 2: Adsorption of Hydrogen by Reduced Nickel at Low Temperatures, by Shun-ichiro Iijima; Über die Konstitution der Glucoside, Mitteilung 7: Das Glucosid von *Sanguisorba officinalis*, von Shigehiro Abe und Munio Kotake; On the Surface Free Energy of Liquids and Liquid Mixtures, by Yonezo Morino; Resistance of Impact on Water Surface, Part 4: Circular Plane, by Shumpei Watanabe. Pp. 285-307+vi+1-135+18 plates. 1.25 yen. No. 478: La likva fazo de portlandemento je praktika miksporcio. De Tutomo Maeda kaj Ryōzō Syōzi. Pp. 137-152. 20 sen. (Tokyo: Iwanami Shoten.)

Report of the Aeronautical Research Institute, Tōkyō Imperial University. No. 98: On the Transmissibility of the Visible Light through a Cloud of Particles, Part 3: Scattering of Light from Particles. By Daizo Nukiyama. Pp. 61-100. 30 sen. No. 99: Investigations on the Origin of the Sounds emitted by Revolving Aircrows, 1: Measurement of Pressure-Variations in the Neighbourhood of the Aircrow Blade. By Jūichi Obata, Sakae Morita and Yahei Yosida. Pp. 101-114. 15 sen. (Tōkyō: Koseikai Publishing House.)

Mémoires de Musée Royal d'Histoire Naturelle de Belgique. Mémoire No. 53: Monographie de la Faune malacologique du Bruxelles des Environs de Bruxelles. Par Dr. Maxime Glibert. Pp. 215+11 plates. Mémoire No. 54: Étude de la variation dans la composition de la flore du toit des veines de l'Olive et du Parc des Charbonnages de Mariemont-Bascoup. Par A. Rousseau. Pp. 30+2 plates. Mémoire No. 55: Le genre alveolites Lamarck dans le dévonien moyen et supérieure de l'Ardenne. Par M. Lecompte. Pp. 50+4 plates. (Bruxelles.)

Mémoires du Musée Royal d'Histoire Naturelle de Belgique, Hors Série. Résultats scientifiques du Voyage aux Indes Orientales Nerlandaises de LL. AA. RR. le Prince et la Princesse Léopold de Belgique. Publiés par V. Van Straelen. Vol. 2, Fascicule 13: i. Sipunculiden, von J. M. A. ten Broeke; ii. Brachiopodes, par E. Leloup; iii. Amphineures, par E. Leloup. Pp. 33+2 plates. Vol. 3, Fascicule 13: Holothuries, par H. Engel. Pp. 42+1 plate. Vol. 3, Fascicule 14: Crustacés décapodes d'eau douce. Par Jean Roux. Pp. 18. Vol. 5, Fascicule 3: Poissons. By Louis Giltay. Pp. 129. (Bruxelles.)

Verhandlungen der Schweizerischen Naturforschenden Gesellschaft. 114 Jahresversammlung vom 1 bis 3 September 1933 in Altdorf. Pp. 510+8 plates. (Aarau: H. R. Sauerländer und Co.)

New Zealand: Department of Lands and Survey. Annual Report on Scenery-Preservation for the Year ended 31st March 1933. Pp. 8. (Wellington: Government Printer.)

Annales de l'Observatoire de Paris, Section d'Astrophysique, à Meudon. Publiées par Ernest Esclançon. Tome 6: Cartes synoptiques de la chromosphère solaire et catalogue des filaments de la couche supérieure. Fascicule 6: Années 1928-1929-1930. Pp. ii+85. (Meudon.)

Commonwealth of Australia: Council for Scientific and Industrial Research. Pamphlet No. 46: The Holding Power of Special Nails. By Ian Langlands. (Division of Forest Products, Technical Paper No. 11.) Pp. 30. (Melbourne: Government Printer.)

Proceedings of the United States National Museum. Vol. 82, Art. 25: Additional Notes on the Birds of Haiti and the Dominican Republic. By Alexander Wetmore and Frederick C. Lincoln. (No. 2966.) Pp. 68+6 plates. Vol. 82, Art. 27: New Species of Buprestid Beetles from Mexico and Central America. By W. S. Fisher. (No. 2968.) Pp. 47. Vol. 82, Art. 28: Revision of the Beetles of the Genus *Disomys* occurring in America North of Mexico. By Doris Holmes Blake. (No. 2969.) Pp. 66+8 plates. (Washington, D.C.: Government Printing Office.)

Abridged Scientific Publications from the Kodak Research Laboratories. Vol. 15, 1931-1932. Pp. 311+vi. (Rochester, N.Y.: Eastman Kodak Co.)

CATALOGUES

Direct Reading Universal Compass. Pp. 8. (London: Thorold Drawing Instruments.)

A Short List of Second-hand Books chiefly in Natural, Physical Science and Mathematics. (Catalogue No. 340.) Pp. 16. (Oxford: B. H. Blackwell, Ltd.)

Geographical Books: a Bibliographical List of University and School Text and Reference Books prepared for the use of Teachers and Students. (No. 422.) Pp. 86. (Cambridge: W. Heffer and Sons, Ltd.)

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