Societies and Academies

LONDON

Royal Society, January 31. R. T. HILL and A. S. PARKES: Hypophysectomy of birds. (6) Plumage changes in hypophysectomised fowls. Hypophysectomy of the Brown Leghorn cock results in the loss of most or all of the black pigment from the feathers of the under-neck, breast and legs. The later growing feathers, particularly, are usually devoid of black and may be extensively fringed. The new plumage over the rest of the body is characterised by loss of black pigment and increase of fringing due to lack of barbules. These changes are so similar to those which follow thyroidectomy that they may reasonably be supposed to be due to thyroid deficiency, which is well known to follow hypophysectomy in mammals. (5) Effect of replacement therapy on the gonads, accessory organs and secondary sexual characters of hypophysectomised fowls. Fowls injected with ox anterior lobe extract for 4–6 days after hypophysectomy all showed a temporary increase in the size of the comb and, in the male, the atrophy of the testes was slightly retarded. Prolonged injection after operation, however, failed to avert (*a*) the comb shrinkage, (*b*) the testes atrophy, or (*c*) the plumage changes, which follow hypophysectomy. Attempts to restore the atrophied gonads and combs of hypophysectomised birds by injections of anterior lobe and urine of pregnancy extracts were comparatively unsuccessful. H. MUIR EVANS: The brain of *Gadus* with special reference to the medulla oblongata and its variations according to the feeding habits of different Gadidæ (1 and 2). The divergence of opinion of the significance of the various lobes in *Gadus* has necessitated a detailed microscopic examination of serial sections of the medulla of the whiting; the result of which is to confirm the views of Goronowitsch and others, and to dispute the conclusions of C. J. Herrick. The facial lobes described by the former writers are held to be true facial lobes, comparable to the single facial lobe of the roach, as a type of cyprinoid brain, which is the result of the fusion of two facial elements. Different species of gadoids can be classified according to their diet, and both diet and dentition are reflected in the pattern of the medulla oblongata. At one extreme is the haddock, feeding on crustacea and mollusca, with a large facial lobe and a small somatic sensory lobe, and at the other end species like the ling and the pollack, feeding almost entirely on fish, with a small facial lobe and a very large somatic sensory lobe. In between there is a gradual transition both in types of medulla and in feeding habits, as we pass from the haddock to the cod, whiting, ling, pollack and hake. H. W. FLOREY and H. E. HARDING: A humoral control of the secretion of Brunner's glands. The secretion of Brunner's glands of the cat occurs independently of extrinsic innervation. The glands are activated after the taking of food by a blood-borne stimulus—a hormone or secretagogue.

PARIS

Academy of Sciences, December 26 (*C.R.*, **199**, 1537–1694).* LOUIS MÉDARD: The Raman effect of binary mixtures of sulphuric and nitric acids. A line with frequency about 1,400 cm.$^{-1}$, very intense even with very low concentrations of sulphuric acid (0·005 per cent), is described. This is called the sulphonitric line. LETORT: The kinetics and energy of activation of the thermal decomposition of the vapour of acetaldehyde. RAYMOND CHARONNAT: Researches on the reaction of J. H. de Boer. Study of the alizarin-zirconyl complex and its reaction with fluorides in acid solutions. GEORGES DENIGÈS: The micro-estimation of caffeine by colorimetry. A modification of Weidel's reaction giving quantitative results. M. TIFFENEAU and MLLE. B. TCHOUBAR: The vinylic and hydrobenzoinic dehydration of the α-cyclane-glycols. The extension of the hydrobenzoinic transposition to the cyclane series. MLLE. S. CAILLÈRE: Study of the dehydration of the fibrous parasepiolite of Madagascar. JACQUES DE LAPPARENT: Boehmite and diaspore in the Ayrshire fireclays. MAURICE DREYFUSS: Methods for the separation of the clay fraction of the sedimentary rocks. The colloidal suspension of the clay is stabilised by the addition of soap, gum arabic, or preferably gelatine, and the stabilising substance removed by appropriate treatment. PAUL LEMOINE, RENÉ HUMERY and ROBERT SOYER: The discovery of the Weald under the Paris region. EDMOND DARTEVELLE and DANIEL SCHNEEGANS: The fossiliferous deposit of Futa (French Equatorial Africa) and the Quaternary of the coast zone of the Congo. This deposit must be attributed to the Pleistocene. One of the species, *Pachymelania aurita*, characterises the Quaternary deposits of Senegal, Guinea and the Ivory Coast. ROBERT LAFFITTE: The Eocene in the eastern Aurès. LÉON MORET and DANIEL SCHNEEGANS: The problem of the limestone Flysch of the mountain of Autapie near Colmars (Basse-Alpes). MARCEL THORAL: The age of the Archæocyathus limestones of the Montagne Noire (Hérault, Tarn and Aveyron). ADOLPHE LEPAPE: The origin of the helium of natural gases. The localisation of the richest natural gas deposits in the old lake deposits. Analyses of gases from various sources are calculated to show the proportion of helium in the 'nitrogen', and this figure serves as the most useful basis for discussion of the analyses. CAMILLE DAUZÈRE and JOSEPH BOUGET: The cause of the variations of the [electrical] conductivity of the air in grottos. The variations depend on the direction and velocity of the air currents in the cave. R. FAILLETTAZ: A new method of recording atmospherics for the prediction of storms. FRÉDÉRIC ROMAN and MARCEL SOLIGNAC: The discovery of a layer of Pontian mammals at Douaria (northern Tunis). HENRI HUMBERT and PIERRE CHOUX: *Alluaudiopsis fiherenensis*, a new Didereaceæ of Madagascar. EMILE MICHEL-DURAND: Metabolism of the phosphorus in the leaves of the mistletoe. WILLIAM SCHOPFER: The synthesis of a growth factor by a micro-organism. RAYMOND HAMET: The production of an isomer of corynanthine by the methyl esterification of its product of alkaline saponification. AUGUSTE CHEVALIER: The micro-bioclimates of the Cape Verde Islands and the adaptations of the vegetation. PAUL BECQUEREL: The longevity of macrobiotic seeds. RAYMOND HOVASSE: The existence of a parabasal apparatus in the flagellated cells of swimming larvæ of the sea-urchin *Paracentrotus lividus*. R. MORICARD: The existence of relations between the gametotrope mitosine, the modifications of the radial vacuome and the start of the precessive reduction mitosis of ovulation and of the formation of the yellow body in the rabbit. JEAN ROY: Experiments of crossing and artificial fertilisation realised in *Bryocamptus pygmœus*. JACQUES BENOIT: Sexual activation

(* *Continued from p.* 199.)

produced by artificial lighting in the duck during the resting period of the sex organs. ETIENNE WOLFF: The experimental production and determinism of an unknown monstrosity, the anterior symely. ALBERT GORIS and HENRI CANAL: The essence and heteroside of *Primula acaulis*. MME. ANDRÉE ROCHE and JEAN ROCHE: The osmotic pressure and molecular weight of the hæmerythrine of the siponcle. PHILIPPE LASSEUR and MARC BENOIT: Observations on the Gram stain. J. RÉGNIER and MLLE. S. LAMBIN: Study of a case of microbial antagonism (*B. Coli-Staphylococcus aureus*). VITO VOLTERRA: Mathematical discussion of the preceding note. HECTOR DIACONO: The reversibility of certain metallo-protein precipitates by the action of sodium thiosulphate. The serological behaviour of the complex arising from hæmolytic sera and syphilitic sera. L. DELHERM and H. FISCHGOLD: d'Arsonval currents diminish neuromuscular excitability. Y. MANOUÉLIAN: Syphilitic umbilical hæmorrhage and treponemes.

GENEVA

Society of Physics and Natural History, December 6. JEAN and L. DESHUSSES: Some special insects injurious to crops in French Switzerland. M. GYSIN: The metamorphic tillites of Kundelungu and of Haute-Lufira (Belgian Congo). In the region of Haute-Lufira, the conglomerate of the base of the Kundelungu (tillite), instead of being purely detritic, shows an abnormal strongly crystalline facies. It contains large crystals of glaucophane-hornblendes, of garnet and of dipyre, as well as numerous thin plates of biotite. The pebbles of the conglomerate are laminated and entirely recrystallised. The author attributes this metamorphism of the tillites to the perimagmatic actions of the neighbouring diabases, conjugated with the metamorphism of dislocation of the Lufilian orogenesis.

December 20. M. GYSIN: Origin of the chloritic rocks of the Haute-Lufira (Belgian Congo). In the Haute-Lufira (Belgian Congo) basin, the sediments of the Kundelungu form a series of parallel folds, oriented W.N.W.-E.S.E. These folds are marked out by dislocation zones containing tectonic breccia, crushed rocks impregnated with quartz and oligist, chloritic rocks and diabases. The author describes the mineralogical constitution of the chloritic rocks, which are principally formed of a pale green chlorite, colourless in thin section, presenting the characters of leuchtenbergite. The formation of the chlorite appears to be due to the action of mineralised solution on the crushed dolomites, more or less metamorphosed by the diabases. E. JOUKOWSKY and J. BUFFLE: Observations on the salts dissolved in the surface waters and the phreatic waters of the Canton of Geneva. The authors give some indications on the relations existing between the water of the Arve and the underlying phreatic sheet. They quote some figures for dissolved salts which appear to prove that the river does not dissolve material picked up from the bed and carried along, at least for a distance of 25 km. WEIGLE and SAINI: The structure of ammonium bromide at a low temperature. The study of ammonium bromide by means of the X-rays (powder method, with high dispersion) has shown that below $-39°$ C. this salt is no longer cubic; it becomes tetragonal. WEIGLE and LUTHI: The dispersion of butyl alcohol for 9 cm. waves. P. BALAVOINE: The present hygienic state of the waters of rural springs of Genevan territory.

LENINGRAD

Academy of Sciences (*C.R.*, 4, Nos. 1–2). S. BERNSTEIN: Trigonometric interpolation by the method of least squares. P. NOVIKOV: A generalisation of the second principle of separability. S. LEITMANN and S. UCHODIN: The combined dispersion and the association of molecules. I. CHVOSTIKOV: Fluorescence of solutions of platinum cyanides. G. RUMER: Contribution to the wave theory of the neutron. S. ARTSYBYSHEV and U. PARFIANOVICH: Penetration of copper into rock salt by electrolysis. The rate of diffusion of copper ions into rock salt at different temperatures follows the exponential law. A. LEVASHOV: Problem of relativisation of the classical mechanics (1). G. GIMMELMANN and M. NEUMANN: Spark ignition of a mixture of methane and oxygen. A. KUDREVATOV: Analysis of calcium fluoride. M. KABACHNIK and M. KATZNELSON: Amidation in the alkaloid series by means of sodium and potassium amides (2). The α- and α'-aminoanabasines. F. BEREZOVSKAJA, M. KOGON and E. MOSKALENSKAJA: Combined action of ultra-violet radiation and of platinum on the transformation of fumaric and the maleic acids and of their salts. P. LAZAREV, A. GAMBURCEVA, S. ABRIKOSOV and B. SHAPOSHNIKOV: Influence of the illumination of human skin on the adaptation of the eye during peripheric vision. The limit of the visual reception decreases after the insolation of the skin. This suggests that the ultra-violet rays produce certain substances in the skin which are absorbed into the blood and affect certain brain centres. P. LAZAREV: Laws of action of light on the eye and on the skin. The sensitiveness of the skin and of the eye to light is subject to analogous variations according to seasons, physiological state of the organism, etc. V. ALPATOV and O. NASTIUKOVA: Influence of ultra-violet radiation on the division rate of *Paramecium caudatum* in relation to temperature during and after radiation. A. BAJEV: Formation of ammonia and respiration in the erythrocytes of birds. H. J. MULLER and A. PROKOFJEVA: Continuity and discontinuity of the hereditary material. G. LEWITSKY and M. SIZOVA: Regularities in chromosome transformations induced by X-rays. R. DOZORCEVA: Artificial mutations in *Pteromalus puparum* induced by radium irradiation. The irradiation by β- and γ-rays intensified the mutation process, but many of the mutations are lethal. A. GUHL: Mutations produced by X-rays in the parasitic wasp, *Pteromalus puparum*. Results were similar to those described in the preceding paper. A. PROKOFJEVA: Morphological structure of chromosomes of *Drosophila melanogaster*. M. BELGOVSKIJ: Effect of hybridisation on mutability of the white gene in *Drosophila simulans*. It appears that hybridisation cannot increase the spontaneous mutation rate to a significant degree, and therefore it cannot be considered an important factor in evolution.

MELBOURNE

Royal Society of Victoria, December 13. LEO W. STACH: The genera of Catenicellidæ. The status of generic names applied to the Catenicellidæ is discussed, and a systematic synopsis is appended which includes descriptions of the new sub-families Catenicellinæ, Cornuticellinæ and Ditaxiporinæ. The following new genera are also described: *Carinatocella*, *Cornuticellina*, *Ditaxiporina*. The new name, *Carinatocella harmeri*, is proposed to replace *Catenicella carinata*, Busk, 1852 (non d'Orb. 1851).