direct experiment the hypothesis of the spinning electron? Suppose that a beam of electrons enters a weak magnetic field nearly normally; the electrons will begin to move in spirals towards the pole of the magnet, and an electrode placed near the pole would collect the electrons. If the electrons have an electric moment, the current to the electrode will drop suddenly to half its value as the direction of the incident electrons approaches the normal to the magnetic field. The experiment will be difficult to carry out.—**Benedict Cassen**: On the distribution law in locally rapidly fluctuating fields which are steady when averaged over a sufficient time interval. In determining the time average electrical potential round the nucleus of a heavy atom, the use of the statistical distribution law of an ideal gas in a steady field is not justified; a 'correlation potential' must be used.—**Frank Peat Goeder**: The crystal structure of potassium sulphate. A quantitative three-dimensional structure is proposed which gives diffraction effects in good agreement with those observed in X-ray powder photographs.—**Carl Barus**: Further experiments in microbarometry.—**Jos. E. Henderson** and **Elizabeth R. Laird**: Reflection of soft X-rays. The curves showing the relation between percentage reflection from glass and glancing angle have no discontinuity corresponding to a critical angle and total reflection such as is found with short wave-length X-rays. The results can be explained by taking into account the absorption.—**Mabel K. Slattery**: Fluorescence and solid solution. Small quantities of uranium dissolved in fused alkali fluorides gives brilliant and resolved fluorescence spectra at the temperature of liquid air. It seems that the uranium goes into uniform solid solution, replacing an atom of the alkali element here and there in the crystal lattice, and produces no measurable change therein.—**E. C. Kemble** and **V. Guillemin, Jr.**: Note on the Lyman bands of hydrogen.—**Lee A. DuBridge**: Systematic variations of the constant A in thermionic emission. A form of the Richardson-Dushman equation is developed in which the observed variations of A can be ascribed to a small temperature variation of the surface work function.—**R. C. Williamson**: (1) The photoelectric long wave limit of potassium vapour. There appear to be two types of *molecular* ionisation, one without and the other with dissociation.—(2) Emergent energy of photoelectrons in potassium vapour.—**Edwin H. Hall**: Electric conductivity and optical absorption of metals. An argument based on the associated-electron theory of conduction, namely, that conduction is partly by free electrons sharing the thermal energy but mainly by the interchange of electrons in encounters between atoms and positive ions, the latter being naturally equal in number to the free electrons.—**Clyde E. Keeler, Evelyn Sutcliffe**, and **E. L. Chaffee**: A description of the ontogenetic development of retinal action currents in the house mouse. Using the intact unanæsthetised animal, it is found that the first visible potential difference on illumination occurs on the 13th-14th day after birth. The reaction in young mice is different from that in older animals, but it gradually takes on the adult form.—**L. C. Dunn**: A fifth allelomorph in the agouti series of the house mouse.—**G. A. Miller**: Determination of all the groups which contain a given group as an invariant subgroup of prime index.—**Charles E. Hadley**: Colour changes in excised pieces of the integument of *Anolis equestris* under the influence of light. Patches of dorsal skin of this Cuban lizard in physiological salt solution in direct sunlight change from green to dark brown in 40 sec., and 12 sec. after removal to the shade become green again. Similar changes occur in the live animal, and also with the stimulation of excitement, but much more slowly. As regards the excised skin experiments, the melanophores must be capable of expansion and contraction when isolated from the action of hormones and the nervous system; possibly impulses are received from end organs left intact in the skin, or light may have a direct effect on the melanophores.

Official Publications Received.

BRITISH.

Proceedings of the Royal Society. Series A, Vol. 121, No. A788. Pp. 477-681+xlii. (London: Harrison and Sons, Ltd.) 8s.

Royal Agricultural Society of England. Agricultural Research in 1927. Pp. viii+190. (London: John Murray.) 1s.

Observations made with the Cookson Floating Zenith Telescope in the Years 1919-1927 at the Royal Observatory, Greenwich, for the Determination of the Variation of Latitude and the Constant of Aberration, under the direction of Sir Frank Dyson. Pp. 67. (London: H.M. Stationery Office.) 7s. 6d. net.

Department of Scientific and Industrial Research. Report of the Water Pollution Research Board for the Year 1927-8. Pp. iii+18. (London: H.M. Stationery Office.) 6d. net.

FOREIGN.

Proceedings of the Academy of Natural Sciences of Philadelphia, Vol. 80. Fishes from Florida and the West Indies. By Henry W. Fowler. Pp. 451-473. (Philadelphia, Pa.)

Ministry of Public Works, Egypt: Physical Department. Paper No. 24: The Measurement of the Discharge of the Nile through the Sluices of the Aswan Dam; Final Conclusions and Tables of Results. By Dr. H. E. Hurst and D. A. F. Watt. Pp. v+44+4 plates. (Cairo: Government Publications Office.) 10 P.T.

Civil Aeronautics. Legislative History of the Air Commerce Act of 1926, Approved May 20, 1926, together with Miscellaneous Legal Materials relating to Civil Air Navigation. Revision of the 1923 edition of Law Memoranda upon Civil Aeronautics. Corrected to August 1, 1928. Pp. v+178. (Washington, D.C.: Government Printing Office.)

Reprint and Circular Series of the National Research Council. No. 83: Sixth Report of the Committee on Contact Analysis. By Robert E. Burk, in collaboration with other Members of the Committee. Pp. 47. 50 cents. No. 84: i. The Fourth Census of Graduate Research Students in Chemistry, 1927; ii. Support of Graduate Research in Chemistry in American Universities, 1927-1928. Compiled by Clarence J. West and Callie Hull. Pp. 13. 20 cents. (Washington, D.C.: National Academy of Natural Sciences.)

Cornell University Agricultural Experiment Station, Ithaca, New York. Bulletin 467: Tomato Fertiliser Experiments in Chautauqua County, New York. By Paul Work. Pp. 24. Bulletin 469: The Collection of General-Property Taxes on Farm Property in the United States, with Emphasis on New York. By M. Slade Kendrick. Pp. 51. (Ithaca, N.Y.)

Diary of Societies.

FRIDAY, JANUARY 4.

ROYAL GEOGRAPHICAL SOCIETY (at Æolian Hall), at 3.30.—Dr. H. R. Mill: Capt. Cook's Quest of the Southern Continent (Christmas Lectures to Young People) (II.).

INSTITUTION OF MECHANICAL ENGINEERS (Informal Meeting), at 7.—Major A. W. Farrer: The Engineer Salesman Abroad.

ROYAL PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN (Informal Meeting of Pictorial Group), at 7.—Discussion on the Prints in the Holcroft Collection.

GEOLOGISTS' ASSOCIATION (at University College), at 7.30.

SOCIETY OF CHEMICAL INDUSTRY (South Wales Section) (at Thomas' Café, Swansea).—A. Grounds: Preparation of Coal for the Market.

SATURDAY, JANUARY 5.

ROYAL INSTITUTION OF GREAT BRITAIN (at Institution of Electrical Engineers), at 3.—A. Wood: Sound Waves and their Uses (V.): The Ear and What it does (Juvenile Christmas Lectures).

MONDAY, JANUARY 7.

ROYAL SOCIETY OF EDINBURGH, at 4.30.—Prof. H. S. Allen: Remarks on Band Spectra.—Dr. I. Sandeman: The Fulcher Bands of Hydrogen.—F. B. Hutt: (*a*) On the Relation of Fertility in Fowls to the Amount of Testicular Material and Density of Sperm Suspension—Studies on Embryonic Mortality in the Fowl; (*b*) Part 1. The Frequencies of Various Malpositions of the Chick Embryo and their Significance.—F. B. Hutt and A. W. Greenwood: (*a*) Part 2. Chondrodystrophy in the Chick; (*b*) Part 3. Chick Monsters in Relation to Embryonic Mortality.—L. A. Harvey: The Oogenesis of *Carcinus mœnas* Penn., with Special Reference to Yolk Formation.—J. Wishart: The Correlation between Product Moments of any Order in Samples from a Normal Population.

VICTORIA INSTITUTE (at Central Buildings, Westminster), at 4.30.—Dr. W. Bell Dawson: The Hebrew Calendar and Time Periods.

INSTITUTION OF ELECTRICAL ENGINEERS (Mersey and North Wales (Liverpool) Centre) (in Laboratories of Applied Electricity, Liverpool University), at 7.—W. B. Woodhouse: Overhead Electric Lines.