

## WASHINGTON, D.C.

National Academy of Sciences (*Proc.*, vol. 15, No. 7, July 15).—J. H. Van Vleck and Amelia Frank: The mean square angular momentum and diamagnetism of the normal hydrogen molecule. A mathematical discussion.—Alvin B. Cardwell: Effects of a crystallographic transformation on the photoelectric and thermionic emission from cobalt. The specimen was slowly and thoroughly 'outgassed'. Marked changes in both photoelectric and thermionic emission occur at about 850° C., when there is a change from hexagonal close packing to the face-centred cubic form. There seems to be an intermediate structure which is much more sensitive than the stable forms; the effect is more marked with descending than ascending temperatures.—Paul R. Gleason: The reflecting power of some substances in the extreme ultra-violet. The region 585 Å.-1850 Å. was investigated. Of the substances tested, platinum is the best reflector (18.6 per cent), and nickel, crystalline quartz, and gold were the only others giving more than 10 per cent at the shortest wave-length. Chromium and silicon are both superior for the longer wave-lengths.—C. Y. Chao: The problem of the ionised hydrogen molecule. A theoretical investigation using the polynomial method of wave mechanics.—Harlow Shapley: Note on the velocities and magnitudes of external galaxies.—Curt P. Richter and Miriam E. Brailey: Water-intake and its relation to the surface area of the body. Water-intake for rats increases with age and is greater for males than females. It is closely related to body surface and hence apparently to heat regulation.—W. W. Alpatov: The influence of thyroid gland feeding on the acceleration of the growth of larvæ of *Drosophila melanogaster*. Larvæ given hog thyroid were definitely larger than controls. It is suggested that invertebrates with short development period can be used as test animals for thyroid.—G. Pincus and W. J. Crozier: On the geotropic response in young rats. A mathematical relationship can be shown between the upward orientation on an inclined surface and the slope for genetically stabilised lines of young rats, and it can be traced in crosses. Thus the constant involved in describing homologous behaviour has a 'real' significance.—William T. Richards and Alfred L. Loomis: Dielectric loss in electrolyte solutions in high frequency fields. An expression connecting power loss, conductivity, dielectric constant and frequency is tested for wave-lengths from 14 m. to 1000 m. The effect of high frequency currents on organisms is correlated with the physico-chemical constitution of their body fluids.—Oscar Knefer Rice: The temperature co-efficient of radioactive disintegration. A consideration, based on the new quantum mechanics, of the sizes of atomic nuclei, indicates that the temperature co-efficient is very small; hence the impossibility of influencing the half-life period in the temperature range available.—Nicholas A. Milas: Some studies on homogeneous catalysis. An expression connecting maximum oxygen absorption rate, concentration of catalyst and time to reach maximum absorption rate has been derived and tested, using anthraquinone and benzoquinone as catalysts for the oxidation of anethol. Maximum oxygen absorption rate appears to be one of the most characteristic properties of auto-oxidation phenomena.—Louis S. Kassel: Unimolecular reactions. A discussion based mainly on the new quantum mechanics and criticising particularly Bourgin's suggestions.—Henry S. Washington: The rock suites of the Pacific and the Atlantic basins. On the whole, the rocks of the Atlantic basin are more alkaline and especially more sodic than those of the Pacific. There are other petrographic provinces, and it is considered

possible that such areal differentiation could exist when the earth was in a fluid or semi-fluid condition.—Simon Flexner and Cornelius P. Rhoads: A method for the determination of the activity of antipoliomyelitic serum. The blood of human beings and monkeys recovering from poliomyelitis contains neutralising substances effective against the incitant of the disease. By injecting both virus and serum into monkeys by way of the cisterna magna (between the skull and vertebral column) no injury to nervous structures is caused, and the course of the experimental poliomyelitis parallels the disease in man. The results will be applied to treatment and prevention of human poliomyelitis.—Ruth H. Lindsay: The chromosomes of some dioecious angiosperms. No morphological difference is recognisable between the two chromosomes of any pair in the pollen mother cells examined.—R. L. Wilder: Characterisations of continuous curves that are perfectly continuous.

## Official Publications Received.

## BRITISH.

- Proceedings of the Royal Irish Academy. Vol. 38, Section B, No. 15: Semperviva of the Canary Islands Area. By Dr. R. Lloyd Praeger. Pp. 454-499 + plates 9-16. (Dublin: Hodges, Figgis and Co.; London: Williams and Norgate, Ltd.) 1s. 6d.
- Lawes Agricultural Trust: Rothamsted Experimental Station, Harpenden. Report 1927-28 with the Supplement to the "Guide to the Experimental Plots" containing the Yield per Acre, etc. Pp. 176. (Harpenden.) 2s. 6d.
- Ministry of Agriculture and Fisheries. Marketing Leaflet No. 12: Grading and Marking of English Wheat Flour. Pp. 8. Marketing Leaflet No. 13: The Grading and Marking of Home-killed Beef. Pp. 8. (London: Ministry of Agriculture and Fisheries.)
- Air Ministry: Aeronautical Research Committee. Reports and Memoranda. No. 1238 (Ae. 393): The Effect of Body Interference on the Efficiency of an Airscrew. By C. N. H. Lock. (T. 2702.) Pp. 8+2 plates. 6d. net. No. 1239 (Ae. 394): The Application of the Theoretical Velocity Field round a Spheroid to calculate the Performance of an Airscrew near the Nose of a Streamline Body. By C. N. H. Lock. (T. 2708.) Pp. 4+2 plates. 4d. net. No. 1241 (Ae. 396): Experiments on a Series of Symmetrical Joukowski Sections. By A. Fage, V. M. Faulkner and W. S. Walker. (T. 2765.) Pp. 19+10 plates. 1s. net. No. 1242 (Ae. 397): The Force and Moment on an Oscillating Aerofoil. By H. Glauert. (T. 2763.) Pp. 17+4 plates. 9d. net. No. 1243 (Ae. 398): Wind Tunnel Tests on a Symmetrical Aerofoil (Göttingen 429 Section). By W. G. A. Perring. (T. 2762.) Pp. 4+4 plates. 4d. net. (London: H.M. Stationery Office.)

## FOREIGN.

- U.S. Department of Commerce: Bureau of Standards. Bureau of Standards Journal of Research. Vol. 3, No. 1, July. Pp. ii+190+14 plates. Vol. 3, No. 2, August. Pp. ii+191-341+23 plates. (Washington, D.C.: Government Printing Office.)
- U.S. Department of Agriculture. Circular No. 71: Heat and Time of Exposure necessary to kill Larvæ of the European Corn Borer in Ear Corn. By George W. Barber. Pp. 14. (Washington, D.C.: Government Printing Office.) 5 cents.
- Conseil Permanent International pour l'Exploration de la Mer. Bulletin hydrographique pour l'année 1928. Pp. 115. (Copenhagen: Andr. Fred. Høst et fils.) 6.00 kr.
- Collection des travaux chimiques de Tchécoslovaquie. Rédigée et publiée par E. Votoček et J. Heyrovský. Année 1, No. 9, Septembre. Pp. 467-520. (Prague: Regia Societas Scientiarum Bohemica.)

## Diary of Societies.

## FRIDAY, OCTOBER 11.

- ROYAL SANITARY INSTITUTE (at the Castle, Shrewsbury), at 4.30.—A. W. Ward and W. H. Butler: Some Notes on Recent Bridges over the River Severn.
- ROYAL SOCIETY OF MEDICINE (Clinical Section), at 5.30.
- INSTITUTION OF ENGINEERING INSPECTION (at Royal Society of Arts), at 5.30.—E. F. Law: The Chemical Laboratory in Inspection.
- MALACOLOGICAL SOCIETY OF LONDON (in Zoological Department, University College), at 6.—Dr. F. A. Schilder: The Eocene *Amphiperasida* and *Cypræide* of England.—G. C. Spence: The Epiphragm in *Streptaxia*.—G. C. Robson: Notes on the Dispersal of *Crepidula fornicata* (L.) in English Waters.—H. H. Bloomer: The Sex of *Anodonta cygnea*.
- OIL AND COLOUR CHEMISTS' ASSOCIATION (Manchester Section) (at Milton Hall, Manchester), at 7.—Dr. Cutter: Polymerisation of Drying Oils.
- MANCHESTER ASSOCIATION OF ENGINEERS (at Engineers' Club, Manchester), at 7.15.—J. A. Robertson: Developments in Power Production (Presidential Address).
- JUNIOR INSTITUTION OF ENGINEERS, at 7.30.—R. H. Allen: Coal and Coal Cleaning.
- LEICESTER TEXTILE SOCIETY (at Leicester), at 7.30.—J. W. Allinson: Colour and Design in Textile Printing.
- INSTITUTE OF METALS (Sheffield Local Section) (at Sheffield University), at 7.30.—F. C. Robinson: Some Notes on the Selection of Suitable Metals to Resist Corrosion (Chairman's Address).