

quantities of ice and by fog. Work was done in the fields of meteorology, oceanography, geography, zoology, and physics. A curious fact with regard to Lumière autochrome plates is noted. Commencing at about latitude $69^{\circ} 40' N.$, a blue veil appeared on the plates, increasing in intensity with the progress north up to the highest point reached, $79^{\circ} N.$ The inverse effect was noted on the return south.—Bilinear forms: **M. de Séguier**.—The partial differential equation of vibrating membranes: **S. Sanielevici**.—The flocculi of hydrogen photographed with the rays $H\alpha$ and $H\delta$: **G. A. Hale**. The flocculi appear to move less rapidly than the gaseous atmosphere in which they float.—The apparent dispersion of light in interstellar space: **Pierre Lebedew**. The experimental results on variable stars obtained by **Ch. Nordmann**, and confirmed by **G. Tikhoff**, have been explained by these authors by the hypothesis that light undergoes a dispersion in interstellar space comparable with the dispersion in air at a pressure of $7mm.$ at $0^{\circ} C.$ In the present paper this hypothesis is shown to be improbable and unnecessary.—An arrangement for the study of the sensitiveness of electrolytic detectors: **P. Jégou**. The method described does not require the mental comparison of the loudness of a sound heard in the telephone with a sound previously heard under another set of conditions. The instrument figured gives readings on an arbitrary scale corresponding to no sound in the telephone. The apparatus has been applied to study the effect of temperature on the sensitiveness of the electrolytic detector.—The photography of speech: **M. Devaux-Charbonnel**. A microphone is placed in series with a battery and an oscillograph, and the movements of the latter photographed. A study of the vowels showed that the curves are always the same for each, provided that care be taken to pronounce them in the same manner. This condition was easy to fulfil for **I** and **U**, more difficult for **A**, **O**, **E**, and most difficult for the mute **E**.—The ultimate rays of the metalloids: tellurium, phosphorus, carbon, silicon, and boron: **A. de Gramont**.—Researches on the solubility of silver iodide in ammonia: **H. Baubigny**. In previous determinations of this constant sufficient care has not been taken to define the temperature and the strength of the ammonia. At 16° , in ammonia of density 0.926 , the solubility is of the order of $1/6000$, or less than half the solubility usually accepted.—Ammoniacal chloride of arsenic: **MM. Besson and Rosset**. The composition of the compound formed by the action of ammonia on $AsCl_3$ is held to be $AsCl_3 \cdot 4NH_3$. The products separated by **M. Hugo** by the action of liquid ammonia do not correspond to the original compound, the liquid ammonia behaving rather as a reagent than as a solvent.—The alkaline chloroiridates and chloroiridites: **Marcel Delépine**.—The hydrates of the phosphoric acids: **H. Giran**.—The hydrates of the fatty acids: **D. E. Tsakalotos**.—Colloidal barium sulphate: **A. Recoura**. A solution of sulphuric acid in pure glycerol is neutralised with barium ethylate. The liquid remains limpid, and diluted with ten times its volume of water gives a colloidal solution of barium sulphate, without any precipitation taking place. Solutions of metallic salts, with the exception of mercuric chloride and salts of barium, determine the precipitation of the sulphate.—Constitution of the tetramethyldiaminobenzhydrylmethylene compounds. The replacement of the hydroxyl of Michler's hydrol by the alkylmethylene residues: **R. Fosse**.—The action of alkalis on mono- and di-methylarsinic acids and on their iodo-substituted derivatives: **M. Auger**.—The lactone of 3:4-dioxybutyric acid: **P. Carré**. Details are given of the most advantageous method of preparing the dioxybutyric acid from monochlorohydrin, and of the isolation of the lactone.—The double phosphate of magnesia and monomethylamine: **Maurice François**. Magnesium phosphate cannot be employed to separate ammonia from methylamine, since the latter forms a double phosphate analogous to the ammonio-phosphate. Magnesium phosphate in excess can be used to separate ammonia or methylamine from di- and tri-methylamine.—A modification of the properties of gluten in presence of sulphurous acid: **J. Dugast**.—The increase of the vital capacity and thoracic perimeter in children: **M. Marage**. A set of respiratory movements was taken by the children for five minutes twice daily. The beneficial effects were very marked, and

are set out in tabular form.—The action of the zinc ion in microbial media: **Joseph Mendel**.—Contribution to the study of the constitution of proteid materials. A new method of hydrolysis with hydrofluoric acid: **L. Hugononq** and **A. Morel**. Hydrofluoric acid at 20 per cent. strength, and at the temperature of the water bath, possesses many advantages as a reagent for the hydrolysis of proteid materials. It gives a complete hydrolysis, and causes less secondary changes than the reagents at present used.—Researches on the hybrids of barley: **L. Blaringhem**.—The hovering of birds: **P. Amans**.—Reply of **M. Marcel Deprez** to the criticism in the preceding note.

DIARY OF SOCIETIES.

THURSDAY, JUNE 25.

ROYAL SOCIETY, at 4.30.—Have Trypanosomes an Ultra-microscopical Stage in their Life-history? **Colonel D. Bruce, C.B., F.R.S.**, and **Captain H. R. Bateman**.—A Search for Possible New Members of the Inactive Series of Gases (Introductory Note to the Papers by **Mr. H. E. Watson** and **Prof. R. B. Moore**): **Sir William Ramsay, K.C.B., F.R.S.**—A Further Investigation of the Lighter Constituents of the Atmosphere: **H. E. Watson**.—An Investigation of the Heavier Constituents of the Atmosphere: **Prof. R. B. Moore**.—On the Atomic Weight of Chlorine: **Dr. E. C. Edgar**.—Note on the Vapour Pressure and Osmotic Pressure of a Volatile Solute: **Prof. H. L. Callendar, F.R.S.**—Eutectics Research No. 1, Alloys of Lead and Tin: **W. Rosenhain** and **P. A. Tucker**.—The Emission and Transmission of Röntgen Rays: **G. W. C. Kaye**.—Further Note on a Luminous Glow generated by Electrostatic Induction in an Exhausted Vessel made of Silica: **Rev. F. J. Jervis-Smith, F.R.S.**—The Action of Chlorine upon Urea whereby a Dichloro Urea is Produced: **Dr. F. D. Chattaway, F.R.S.**—On the Reflection of Waves from a Stratum of Gradually Varying Properties, with Application to Sound: **Dr. J. W. Nicholson**.—Preliminary Account of the Habits and Structure of the Anaspididae, with Remarks on some other Freshwater Crustacea from Tasmania: **Geoffrey Smith**.—The ψ -Functions—a Class of Normal Functions: **E. Cunningham**.—And other papers.

MONDAY, JUNE 29.

ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—Some Aspects of the Nile Valley: **Capt. H. G. Lyons, F.R.S.**

WEDNESDAY, JULY 1.

BRITISH ASTRONOMICAL ASSOCIATION, at 5.

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