

United States.—On the identity of the new comet with De Vico's comet, by M. L. Schulhof (see our *Astronomical Column*, December 6, p. 132).—Observations of the planet B H 1894, discovered by M. Borrelly at Marseilles Observatory, November 19, 1894; by M. Borrelly.—On the distribution of planets between Mars and Jupiter, by M. E. Roger. A mathematical paper in continuation of a paper on the same subject in the previous number.—On quasi alternate permutations, by M. Désiré André.—On the temperature of the electric arc, by M. J. Violle. The conclusion is drawn, from a spectroscopic study of the poles and the arc itself, that the temperature of the arc is generally higher than that of the positive carbon, and that it increases with the electric energy employed.—On the solubility of ozone, by M. l'Abbé Mailfert. At a pressure of 76 mm. water dissolves two-thirds of its volume of ozone at 0° C., at 12° about one-half. The solubility of ozone in water acidified with sulphuric acid is the same as its solubility in pure water up to about 20° C.; more ozone is dissolved by the acid solution above this temperature. The suggestion is made that ozonised water might be employed as a disinfectant and antiseptic.—On the superposition of the optical effects of different asymmetric carbon atoms in the same active molecule, by MM. Ph. A. Guye and M. Gautier. For the determination of this point the authors have used in the present instance amyl valerate. The ester produced by combining inactive amyl alcohol with active valeric acid gives $[\alpha]_D = +1.08^\circ$, the corresponding compound with active amyl alcohol and inactive valeric acid gives $[\alpha]_D = +4.26^\circ$; the ester obtained from active alcohol and active acid gives $[\alpha]_D = +5.32^\circ$, while the sum of the two former is $+5.34^\circ$. Theoretically a better agreement should be obtained by using the racemic in place of the inactive forms; in this case the sum is 5.62° . The difference is probably due merely to experimental errors.—Experimental researches on the crystallisation point of some organic substances, by M. Raoul Pictet. The crystallisation points of a number of organic substances are given, and the results are embodied in a number of general conclusions confirming previous work.—On the emission of a saccharine liquid by the green parts of the orange-tree, by Dr. M. Büsgen. The author calls attention to the part played by aphides and similar parasites in the production of saccharine liquids from plants, and includes the orange-tree among the cases of this kind.—Osteomyelitis of the inferior maxillary in the kangaroo, by MM. Lannelongue and Achard.—On the action of the toxine from the pyogenous Staphylococcus on the rabbit, and on the secondary infections which it determines, by MM. Mosny and G. Marcano. The toxine does not confer immunity against the attacks of the living microbe.—Action of high pressures on some bacteria, by M. H. Roger. Notable differences were observed between different bacteria in regard to their behaviour under pressure. The virulence of the anthrax bacillus was very much diminished by a pressure of 3000 kgms.—On the disinfection of faecal matter, by M. H. Vincent. At about 16° C. the disinfection of normal faecal substances is brought about in twenty-four hours by 6 kgms. of copper sulphate per cubic metre. Eberth's bacillus is destroyed in typhoidal refuse by 5 kgms. per cubic metre, and the cholera bacillus by 3.5 kgms. of copper sulphate per cubic metre after twelve hours contact.—Marine muds and their classification, by M. J. Thoulet.

BERLIN.

Physical Society, November 2.—Prof. du Bois Reymond, President, in the chair.—The President alluded to the death of Prof. Pringsheim, and drew attention to his important researches on the fertilisation of algæ.—Dr. C. H. Wind gave a comprehensive review of the researches carried on by Dutch observers with reference to Kerr's phenomenon. He then discussed Lorentz's theory, and described the elaborate experiments made by Sissingh and Zeeman and by himself, which had yielded results for iron, nickel, and cobalt, which were not quite in accord with the theory. Since the other theories as to this phenomenon, as, for instance, that of Drude, are still less in accord with experimental facts, the speaker had extended Lorentz's theory so as to take into account the results obtained by Sissingh and Zeeman, and to bring the phenomenon of Kerr into relation with that of Hall. This extension of the theory had been accepted by Lorentz, and Dr. Wind is now engaged on the investigation of certain phases of Hall's phenomenon.

NO. 1311, VOL. 51]

BOOKS, PAMPHLETS, and SERIALS RECEIVED.

BOOKS.—In the Guiana Forest: J. Rodway (Unwin).—The Electro-Plater's Handbook: G. E. Bonney, 2nd edition (Whittaker).—Lehrbuch der Botanik für Hochschulen: Drs. Strasburger, Noll, Schenck, and Schimper (Jena, Fischer).—Lehrbuch der Zoologie: Dr. R. Hertwig, Dritte Auflage (Jena, Fischer).—Climbing in the Himalayas; Maps and Scientific Reports: W. M. Conway (Unwin).—Ottica: Prof. E. Gelcich (Milano, Hoepli).—The Dynamics of Life: Dr. W. R. Gowers (Churchill).—The Planet Earth: R. A. Gregory (Macmillan).—Britain's Naval Power: H. Williams (Macmillan).—The Warwick Shakespeare. "As you like it," edited by J. C. Smith (Blackie).—The Teacher's Manual of Lessons in Elementary Science: H. Major (Blackie).—Handbuch der Stereochemie: Drs. Walden and Bischoff, ii. Band (Frankfurt a. M., Bechhold).—Forty-three Graphic Tables or Diagrams for the Conversion of Measurements in Different Units: Prof. R. H. Smith (Griffin).—Torpillies Sèches: E. Hennebert (Paris, Gauthier-Villars).
PAMPHLET.—Gehirn und Seele: Prof. A. Forel (Bonn, Strauss).
SERIALS.—Observatory, December (Taylor and Francis).—Companion to Observatory (Taylor and Francis).—Himmel und Erde, December (Berlin, Paetel).—Geographical Journal, December (Stanford).—Natural History of Plants: Kerner and Oliver, Part 8 (Blackie).—Yule Tide Annual (Cassell).—Science Progress, December (Scientific Press).

CONTENTS.

| | PAGE |
|--|------|
| Dilettantism and Statistics. By Prof. Karl Pearson | 145 |
| Water Supply and Water-works | 146 |
| Hamilton's Pathology | 148 |
| Our Book Shelf:— | |
| Fox: "The Mechanism of Weaving" | 149 |
| Atkinson: "Memorials of Old Whitby" | 149 |
| Haacke: "Die Schöpfung der Tierwelt" | 149 |
| Hutton: "The Vaccination Question," | 149 |
| Glaister: "Dr. William Smellie and his Contemporaries" | 149 |
| Letters to the Editor:— | |
| Dr. Watt's Dictionary of the Economic Products of India.—W. T. Thiselton-Dyer, C.M.G., F.R.S.; Dr. V. Ball, F.R.S. | 150 |
| Drift-Bottles in the Irish Sea.—Prof. W. A. Herdman, F.R.S. | 151 |
| The Explosion of Gases in Glass Vessels.—Prof. H. B. Dixon, F.R.S. | 151 |
| The Kinetic Theory of Gases.—G. H. Bryan; Dr. J. Larmor, F.R.S. | 152 |
| Peculiarities of Psychical Research.—Prof. Karl Pearson | 153 |
| Chronometer Trials.—William E. Plummer | 153 |
| Indo-Malayan Spiders.—B. A. Muirhead | 153 |
| Death-feigning in Snakes.—Gerard W. Butler | 153 |
| The Alleged Absoluteness of Motions of Rotation.—A. E. H. Love, F.R.S. | 153 |
| Gravitation.—Prof. Oliver J. Lodge, F.R.S. | 154 |
| Outlines of Quaternions.—Lieut.-Colonel H. W. L. Hime | 154 |
| The Warble Fly. (Illustrated.) By W. F. Kirby | 154 |
| Ferdinand de Lesseps | 155 |
| Notes. (Illustrated.) | 156 |
| Our Astronomical Column:— | |
| Motion and Magnitude | 160 |
| The Recent Transit of Mercury | 160 |
| The New Achromatic Object-glass. (Illustrated.) | 160 |
| Ephemeris for Swift's Comet | 160 |
| A New Star? | 161 |
| Prof. Victor Meyer's New Method of Determining High Melting Points. By A. E. Tutton | 161 |
| Science in the Magazines | 161 |
| Oyster Culture on the West Coast of France. By Prof. W. A. Herdman, F.R.S. | 162 |
| Endowment for Scientific Research and Publication. I. | 164 |
| Scientific Serials | 167 |
| Societies and Academies | 167 |
| Books, Pamphlets, and Serials Received | 168 |