SCIENCE

A WEEKLY JOURNAL DEVOTED TO THE ADVANCEMENT OF SCIENCE, PUBLISHING THE OFFICIAL NOTICES AND PROCEEDINGS OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

FRIDAY, MAY 17, 1901.

CONTENTS:

THE PLAGUE IN SAN FRANCISCO.

IN the spring of 1900 the city bacteriologist of San Francisco and the quarantine surgeon of the Marine Hospital Service, stationed at Angel Island, San Francisco Bay, made the discovery that the death of a Chinaman had been caused by plague. In accordance with the provisions of the laws governing these two officers in their respective functions, the case was officially reported. Other cases soon developed, and the occurrence of these cases was likewise officially reported. The reports of the quarantine surgeon were published in the Public Heath Reports of the Marine Hospital Service in accordance with law and with international agreements. The truth of the reports was at once questioned by the larger portion of the local public press, the objections being partly of a political and partly of a commercial character. A certain portion of the medical profession also opposed the recognition of the diagnosis, and the opinions of these physicians constituted the basis of the denial by the press of the truth of the existence of plague. The diagnosis had been established in accordance with the conceptions of plague as determined by the scientific study of the

begun by the author in 1888, of preparing a 'Select Bibliography of Chemistry,' he has now in preparation a fourth volume, which will afford him an opportunity of supplying omissions in the three already published.

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Elementary Organic Analysis, The Determination of Carbon and Hydrogen. By FRANCIS GANO BENEDICT, PH.D., Instructor in Chemistry in Wesleyan University. Easton, Pa., The Chemical Publishing Co. 1900. 8vo. Pp. 86. Price $1.00.

The author states in his preface, "Perhaps no analytical operation is at once so fundamentally important and exasperatingly vexatious as the organic combustion. Notwithstanding this fact, save for the meager statements in one or two of the larger books on organic chemistry, no description of the process of the determination of carbon and hydrogen is accessible to most students. As a rule a knowledge of the operation is chiefly obtained by word of mouth.

"This little manual is presented in the hope that the descriptions of processes here recorded will aid in making this method of analysis more familiar and more satisfactory."

The author states that he has had an experience with over two thousand combustions and that in this book he has embodied such modifications of the general method as have been suggested by that experience.

Some idea of the book will be obtained from the following table of contents: Introduction, preparation of oxygen, compressed oxygen, gasometers or gas holders, air, purifying apparatus, rubber tubing and stoppers, combustion furnaces, combustion tubes, oxidizing agents, filling the combustion tube, boats, absorbing agents, absorbing apparatus, cleaning and weighing absorbing apparatus, weight of material used, burning out the combustion tube, general process of the combustion, combustion of nitrogenous substances, combustion of bodies containing the halogens, combustion of bodies containing sulphur, combustion of bodies containing the alkali metals, combustion of difficultly combustible bodies, combustion of liquids and volatile bodies, combustion of explosive bodies, calculation of results, appendix and index.

The book is well printed and of convenient size for laboratory use. For use in teaching students of chemistry the methods of combustion analysis it will be of great value, and even the experienced chemist will find in it many suggestions and new ideas.

W. R. ORNDORFF.

BOOKS RECEIVED.

Cyclopedia of American Horticulture. L. H. BAILEY, assisted by WILHELM MILLER. Vol. III., N-Q. New York and London, The Macmillan Company. 1901. Pp. xv + 1055-1486. $5.

School Geography, Europe and other Continents with Review of North America. RALPH S. TARR and FRANK M. MCMURRY. New York, The Macmillan Company. 1901. Third book. Pp. xx + 574.

The Limits of Evolution and other Essays illustrating the Metaphysical Theory of Personal Idealism. G. H. HOWISON. New York and London, The Macmillan Company. 1901. Pp. xxxv + 396. $1.60.

SCIENTIFIC JOURNALS AND ARTICLES.

The American Naturalist for April has as its first article a paper by B. Arthur Bensley, on 'A Theory of the Origin and Evolution of the Australian Marsupialia.' The adaptive modification of their teeth and feet are compared with those of placental mammals, the author concluding that the marsupials were differentiated from Didelphyd forms, but adding no evidence to show from what direction they entered Australia. R. M. Strong presents in detail 'A Quantitative Study of Variation in the Smaller North American Shrikes,' and Frank Russell describes 'A New Instrument for Measuring Torsion' in the long bones of the human skeleton, but applicable to other purposes. The valuable series of 'Synopses of North-American Invertebrates' is resumed, the present paper, the fourteenth of the series, by C. W. Hargitt, being devoted to 'The Hydromedusæ, Part I.' The number contains the quarterly record of gifts to institutions, and the appointments, retirements and deaths of scientific workers.

The Journal of Physical Chemistry, March, 1901, 'On the Dielectric Constants of Nitrils,' by Herman Schlundt. The fact that solutions

of salts in nitrils are good conductors of electricity makes a determination of the dielectric constant of importance. Hydrocyanic acid was found to have a higher dielectric constant than water. An increase in the size of the molecules of nitrils by the addition of carbon and hydrogen lowers the dielectric constant. 'The Fundamental Equation of a Multiple Point,' by Paul Saurel. 'On a Property of the Pressure-Volume Diagram,' by Paul Saurel. 'Dissociation Studies,' by Wilder D. Bancroft. A study of the equilibrium relations of the three modifications of ethyl-aldehyde.

The April number (No. 2, Vol. XXIII.) of the *American Journal of Mathematics* contains the following memoirs: 'The Cross Ratio Group of 120 Quadratic Cremona Transformations of the Plane,' by H. E. Slaught; 'Memoir on the Algebra of Symbolic Logic,' by A. N. Whitehead; 'On a Special Form of Annular Surfaces,' by V. Snyder; 'On the Transitive Substitution Groups, whose Order is a Power of a Prime Number,' by G. A. Miller; 'Geometry on the Cubic Scroll of the Second Kind,' by F. C. Ferry.

The leading article of the May number of *Popular Astronomy* is the concluding one of the series written by Herbert A. Howe, on 'Astronomical Books for the Use of Students.' G. Seneca Jones contributes a discussion of Professor Holden's recent article in *McClure's Magazine*, entitled 'What we Know about Mars'; George C. Comstock an article on 'Establishing a Meridian Line,' and Dr. J. Morrison the third instalment of a series on general perturbations and the perturbative function. 'The New Star in Perseus' is discussed by A. E. Douglass, of the Lowell Observatory, Flagstaff, Arizona, and by George E. Hale, of the Yerkes Observatory, and Professor J. G. Hagen's second chart and catalogue are printed. Observations are reported by David E. Hadden, F. E. Seagrave and Wm. E. Sperra. Dr. H. C. Wilson writes of the approaching total solar eclipse of May 17–18, 1901, accompanying his article by charts showing the path of the eclipse and its track across Sumatra and Borneo. The General Department contains notes upon Amherst College Total Eclipse Expedition, the Benjamin Apthorp Gould fund, Eros a Double Planet, Astronomy in High Schools, List of Stellar Novæ and So-called New Stars-Book, reviews of Serviss, 'Pleasures of the Telescope,' and Comstock's 'Text-Book of Astronomy,' 'Astronomy in the 20th Century' and the Alvan Clark and Sons Corporation. The usual planet and asteroid notes are also included.

SOCIETIES AND ACADEMIES.

ANTHROPOLOGICAL SOCIETY OF WASHINGTON.

At the 317th meeting, held on April 9th, Mr. George C. Maynard exhibited an interesting series of early time-keeping apparatus, consisting of a set of four sand glasses, mounted in a frame, used during the fourteenth century in churches; a water clock; a pewter and glass time lamp; a time candle, and a small cocoanut cup from Lower Siam, having a perforation; the cup, when floated on a basin of water, sinks in a stated period.

Hon. Edward F. McSweeny, Assistant Commissioner of Immigration, port of New York, read a paper on the immigration question. The paper was accompanied by charts and photographs of racial types. Mr. McSweeny, in discussing the subject of immigration, gave some historical account of the origin and cause of such movements, and, in reference to the tide that early set toward this country, he called attention to the variety of peoples that were represented. In the chart showing immigration by years, the diminution of the influx of foreigners during the periods of industrial depression was most marked. Mr. McSweeny pointed out that the foci of immigration have shifted from northern Europe to eastern Europe, and that the bulk of immigrants are Italian, Slavic and Oriental, of an undesirable class. He fears that the present tendency to concentration in all fields of industrial endeavor may be utilized in connection with the introduction of vast hordes of these aliens to break down labor conditions and wage standards, and suggests that legislation to exclude this undesirable class should be framed. The paper was discussed by Major J. W. Powell, John R. Proctor, and a number of others present.

Walter Hough.