

tubes, pipes, canals, and rivers. The measurement of water-power, the dynamic pressure of flowing water, hydraulic motors, and naval hydro-mechanics are treated in separate chapters, the latter subjects being given less space than their importance would seem to warrant. The book is amply illustrated.

A General Formula for the Uniform Flow of Water in Rivers and other Channels. By E. GANUILLET and W. R. KUTTER. Tr., with additions, by Rudolph Hering and John C. Trautwine, Jun. New York, Wiley; London, E. and F. N. Spon. 8°. \$4.

To all engaged in the study of hydraulic problems, as well as to engineers who deal with the flow of water, this book will be of great service. It is the first published translation of the authors' chief work on the subject; though unauthorized translations from articles in German periodicals on this subject, by the same authors, were published in London several years ago. The first part of the work is devoted mainly to historical matter, and to a review of present knowledge of the laws governing the flow of water. A treatise on the new formula, showing its close agreement with a large number of experimental results obtained under differing conditions, makes up the second part. A supplement contains a more direct method of deriving the formula, for the benefit of those who desire mathematical brevity. A second general formula is also sketched, though not made prominent, as the first one is considered preferable.

The translators call attention to the fact that the authors have been erroneously regarded as holding their formula to be scientifically perfect, and covering both possible and impossible conditions of flow. They disclaim for them any such intention, insisting, that, as the formula is purely and essentially empirical, it must not be expected to apply to cases beyond the range of the data from which it has been derived. Its application is limited to cases where the slope of the water-surface can be ascertained with a degree of accuracy sufficient for the given case.

Nine appendices and five tables for practical use, which form part of the volume, contain much additional matter of value to those interested in the subject. In Appendices I. to IV. are given extracts from the works of Mr. Kutter upon the formula. Appendix V. contains directions for constructing the diagram used for a graphical solution of the formula. Appendix VI. is devoted to Kutter's modification of Bazin's general formula, useful for special purposes because of its simplicity. In Appendix VII. are given a number of formulæ and data concerning the relation between the mean and surface velocities in streams; the views of a number of investigators on velocities beyond which a scouring of the bed takes place in channels formed of different materials, are given in Appendix VIII.; and an account of Harlacher's method of ascertaining the discharge of rivers, in Appendix IX.

In Table I. are collected the hydraulic elements of over 1,200 gaugings, made in 300 different channels and pipes, under varying conditions of mean hydraulic depth and slope. In the original work the corresponding table is confined to 81 gaugings; so that this table is virtually the work of the translators, who believe it to be the most complete and comprehensive one yet published. The other tables contain the computed values of different elements of the formula, and the conversion of units of measure. An immense amount of labor has been bestowed upon this work by translators as well as authors.

AMONG THE PUBLISHERS.

THE delay in the publication of Sir Monier Williams's book on Buddhism has been caused by difficulties which have arisen in connection with the illustrations. A certain number of copies will be in Mr. Murray's hands at once. The work will be published in America by Macmillan & Co.

— Lee & Shepard have in press Samuel Adams Drake's "Decisive Events in American History, Burgoyne's Invasion of 1777, with an Outline Sketch of the American Invasion of Canada, 1775-76." It will be an admirable historic narrative, intended to be used as a text-book, or as a supplementary reader in schools, as well as for general reading. A valuable book, arranged especially for

young people, yet by no means unsuited to any time of life, entitled "Every-Day Business: Notes on its Practical Details," by M. S. Emery, will be published soon by this house. It gives careful instruction regarding many matters closely connected with business transactions. The book will be a valuable companion for young people, and its pages will contain instructions on business subjects, being designed for ready reference, and also as a text-book for use in schools.

— Macmillan & Co. will publish shortly "Natural Inheritance," by Francis Galton; a second series of Sir John Lubbock's "Pleasures of Life;" and A. R. Wallace's work on Darwinism.

— Harper & Brothers will publish this month the second volume of W. P. Frith's "Autobiography and Reminiscences," and a new and revised edition of the "Manual of Historical Literature," by President C. K. Adams of Cornell.

— Wolcott & West, Syracuse, N.Y., will shortly publish "Theories of Knowledge," by Rev. W. D. Wilson, D.D., Professor Emeritus in Cornell University.

— D. C. Heath & Co. have just ready, in their series of Guides for Science Teaching, "Hints for Teachers of Physiology," by Dr. Henry P. Bowditch of the Harvard Medical School. It will show how a teacher may supplement his text-book instruction by simple observations and by experiments on living bodies or on organic material.

— Dodd, Mead, & Co. have in preparation the letters and diaries of Emin Pacha, which, besides containing matter of interest as biography, relate largely to the author's scientific investigations. The volume has for an introduction a biographical sketch of Emin, with two portraits, one of them recent. They have also in press Bayard Tuckerman's biography of Lafayette, to be issued in two volumes.

— T. Y. Crowell & Co., in connection with the announcement of a cheaper cloth and a paper edition of Tolstoi's great work, "Anna Karénina," translated by Nathan Haskell Dole, state that Mr. Dole's translations have been received with great favor by the Tolstoi family. In a recent letter to Mr. Dole, the Countess Tatiana Lyovna Tolstoi says, "My father has read your translations, and is much pleased with them. They are to his mind very carefully and accurately done."

— Ulric Blickensderfer, Chicago, Ill., has just issued "Blackstone's Elements of Law, etc.," with analytical charts, tables, and legal definitions, arranged and displayed by a systematic and attractive method. Mr. Blickensderfer is an attorney-at-law, and claims that these charts will be found time-saving helps to his colleagues. Sample copies may be had on application. He also has published a chart of the "Historical and Genealogical Descent of the Crown of England," which by an ingenious arrangement of types brings the history of England on one side of a sheet of paper six inches wide and eighteen inches long, which folds up like an ordinary legal document. The succession covers from A.D. 827 to the ascent of Queen Victoria in 1837.

— The article on "Climbing Mount St. Elias," to appear in *Scribner's* for April, is the work of an American member of the Alpine Club, Mr. William Williams, who, with two English fellow-members, succeeded, during the summer of 1888, in reaching the highest point ever attained on that mountain, — about 11,400 feet. Charles Francis Adams, president of the Union Pacific, will contribute a railroad article to the number, on the "Prevention of Strikes." He proposes a plan which, if carried out, would be almost a revolution in the relations of railroad employers and employees. William H. Rideing, who made a careful inspection of the great Clyde ship-yards during the past summer, will give a description of them, showing the various stages in "The Building of an Ocean Greyhound."

— Ticknor & Co.'s March books include "Dragon's Teeth," translated from the Portuguese of Eça de Queiros, by Mrs. Mary J. Serrano; and in their Paper Series, "Forced Acquaintances" (No. 53), by Edith Robinson, and "Under Green Apple Boughs" (No. 54), by Helen Campbell.