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BOOK REVIEWS.

Design of Plate Girders.—By Lewis E. Moore, B.S., C.E. A. M. Am. Soc. C.E., Mem. Western Soc. of Engineers; Associate Professor of Structural Engineering, Massachusetts Institute of Technology. Published by McGraw-Hill Book Company, Inc., New York. 283 pages; 85 illustrations; 3 folding charts; 42 tables; cloth; size, 6 x 9 inches. Price, \$3.00.

This book is the outcome of six years' experience in teaching the subject of Bridge Design and of practical railroad work and designing in a bridge company. The author has also had experience on the Massachusetts Railroad Commission.

His practical experience has led him to thoroughly appreciate the difficulties encountered by young designers, with the result that the work is exceptionally complete and will be found very useful to structural engineers.

The arrangement of the subject matter is logical, and the space devoted to the various parts of the subject bears a better proportion to their relative importance than is to be found in most books of this nature. The explanations of the formulæ used are very full and clear, and numerous examples of the results of faulty design give the reader an appreciation of girder design from a practical viewpoint such as is seldom obtained from a text-book.

A contribution on deflection by Prof. W. H. Lawrence, of the Massachusetts Institute of Technology, will be found at the end of the chapter on the Theory of Plate Girders. There is also incorporated in the book a very useful chapter by John C. Moses, of the Boston Bridge Works, on Shop Practice. In this chapter the reader is introduced to considerations which are of the utmost importance, and which are, in a great many cases, either unknown to the designer or lost sight of in the mass of purely theoretical knowledge which he uses in his design. A design of this kind produces either of two results. Firstly, if the engineering department of the bridge company awarded the contract is abnormally busy or undermanned, the design will be executed, as nearly as possible, in accordance with the plans supplied, and the cost of fabrication will be excessive. Secondly, the bridge company may, as is usually the case, redesign the structure

(without weakening it) to conform to economical shop practice. In this event the new design must be checked by the original designer, and the cost of the design is more than it would otherwise have been.

In the last chapter is embodied a set of the general specifications of the New York, New Haven and Hartford Railroad, dated 1912. Most bridge designs in Canada are, however, governed by the specifications of the different railway boards.

The book also contains a useful set of tables.

Conservation of Water.—By Walter McCulloh, C.E. Published by Yale University Press, 135 Elm Street, New Haven, Conn.; 225 Fifth Avenue, New York City. 106 pages; 40 plates; cloth, 7 x 10 inches. Price, \$2.00 net, postage 15 cents extra.

This volume constitutes the first of the series of memorial lectures delivered under the Chester S. Lyman Lectureship Fund, before the Senior Class of the Sheffield Scientific School, of Yale University, and is made up of five chapters with the following captions: Introductory, Basic Data Essential to a Comprehensive Study of Water Storage, Water Power, Water Storage for Water Supplies, Sanitation and Irrigation, and the Water Resources of New York State. The lectures cover the field of the use and storage of water in a broad and general manner. The book is not a text-book in any sense of the word, but affords a readable commentary on the salient features of water conservation. It is unfortunate that as no doubt the size of the book has been curtailed by the necessity of covering the work in five lectures, space should be given to descriptions of the power plants at Niagara, since these developments have all been described many times, both in the engineering periodicals and in recent text-books. The volume is very handsomely printed, the numerous illustrations give it a most pleasing appearance; and, altogether, it will form a desirable addition to the library of the hydraulic engineer or the student interested in conservation.

The Railways of Great Britain.—By Lord Monkswell, D.L. Published by Smith, Elder & Company, 15 Waterloo Place, London, S.W. 296 pages; 25 illustrations; cloth. Price, \$1.50.

The table of contents, which extends through five chapters, covers almost every item of railway equipment, expenditure, working, financing, traffic, hotels, water communication, labor union problems, and, indeed, all the varied activities and details of management involved in the maintenance and working of a large, modern railway. The main headings include the East Coast, the Railways of Central England, the West Coast and the railways of the South and East. The author, Lord Monkswell, is the third Baron with that title, but the family name is Collier. He is a barrister by profession, who has made railroad operation a study, and has written very fully on "French Railways." His book on British practice, while not being technical in the narrow sense, yet contains a great deal of technical information. It is a general and comprehensive survey of the whole railway situation as it exists in the British Isles at the present time.